



**Vakhtang Gvakharia**

**Position**

Al. Janelidze Institute of Geology of Iv. Javakhishvili Tbilisi State University, Department of Environment Protection, Head of Department, Principal Researcher

**Scientific/academic degree, title**

Ph.D. Chemistry (1976). Thesis title: "Study of nature of the OH<sub>r</sub> groups in the zeolithes.

**Contact information**

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**Education:**

1958-1963 - Iv. Javakhicsvili Tbilisi State University, Faculty of Chemistry, Specialty - Physical Chemistry.

1963-1968 - Moscow State University, Faculty of Physical Chemistry, Post-graduated.

**Employment history**

1968 - 1976 – Institute of Physical and Organic Chemistry of Georgian Academy of Sciences, Minor Scientist;

1976 -1978 – Al. Janelidze Institute of Geology of Georgian Academy of Sciences. Laboratory of Physico-chemical Analyses, Head of Laboratory, Major Scientist;

1978 -1986 – Al. Janelidze Institute of Geology of Georgian Academy of Sciences, Laboratory of Physico-chemical Analyses, Head of Laboratory, Major Scientist

1986 -2005 – LEPL Al. Janelidze Institute of Geology. Department of Physico-chemical Analyses, Head of Department, Major Scientist

2005 - 2016 – Al. Janelidze Institute of Geology of Iv. Javakhishvili Tbilisi State University. Department of Phisico-chemical Analyses of the environment, Head of Department, Major Scientist

2017 - up to date – Al. Janelidze Institute of Geology of Iv. Javakhishvili Tbilisi State University. Department of environment protection, Head of Department, Major Scientist

**Research interests**

Expert in field of chemistry and environmental protection; ecological consultation service; Expertise field: ecology of groundwater and surface water; Evaluation of safety of groundwater

deposits, estimation of resources; Ecology of Black Sea coastal zone and water areas; Ecological audit of areas, evaluation of ecological status of landscapes and ecosystems; Problems of exploitation mining deposits of Georgia; Assessment of impact of mining industry on the environment, mitigation measures, problems of utilizations of mining wastes, waste waters; Investigation of background state and pollution level of the environment, environmental impact assessment based on the multidisciplinary researchers, environmental management, waste management and monitoring; planning of measures of reduction of environmental impacts.

### **Publications**

1. *D. Demetrashvili, K. Bilashvili, N. Machitadze, N. Tsintsadze, V. Gvakharia, N. Gelashvili, V. Trapaidze, I. Kuzanova* (2022). Numerical Modelling of Marine Litter Distribution in Georgian Coastal Waters of the Black Sea. *Journal of Environmental Protection and Ecology* 23, No 2, pp. 531–541 (2022) <https://scibulcom.net/en/journal/1311-5065/issue/2022-23-2/>
2. *N. Bagrationi, L. Gverdciteli, V. Gvakharia, A. Chirakadze, A. Surmava* (2021). Assessment of ecological state of Arsenic Industrial waste disposal and distribution area. Publishing house "Technical University", 2021. 120p. ISBN 978-9941-28-809-8. <https://publishhouse.gtu.ge/ge/post/175> . (in Georgian).
3. *O. Kutsnashvili, D. Arevadze, A. Tvalchrelidze, E. Gamkrelidze, T. Chelidze, E. Tsereteli, U. Zviadadze, N. Poporadze, I. Gujabidze, V. Gvakharia, A. Korkotadze, I. Iominadze* (2020). Industry of Mineral Resources. "Meridiani" Publishing, Georgia-2050. Development Strategy of Georgia. Tbilisi, 2020, Pp. 52-69. ISBN 978-9940-25-728-5.
4. *V. Gvakharia, A. Chirakadze, O. Tsiklauri, J. Akhvlediani* (2020). Industry of Secondary Resources". Meridiani" Publishing, Georgia-2050. Development Strategy of Georgia. Tbilisi, 2020, Pp. 185-204, ISBN 978-9940-25-728-5.
5. *D. Makharoblishvili, V. Gvakharia, O. Kutsnashvili, Sh. Machavariani, K. Shengelia* (2020). Interdisciplinary Sciences and the Educational System. "Meridiani" Publishing, Georgia-2050. Development Strategy of Georgia. Tbilisi, 2020, Pp. 251-25. ISBN 978-9940-25-728-5.
6. *A. Mikaberidze, V. Gvakharia, T. Adamia, G. Zhorzholiani* (2020). Assessment of the state of noise pollution by motor transport in main roads adjacent to some avenues and streets of Saburtalo and Vake districts of Tbilisi. Alexandre Janelidze Institute of Geology of Ivane Javakhishvili Tbilisi State University, Proceedings. New Series. Vol. 132 Pp. 169-179. ISSN 2667-9213.. [https://dspace.nplg.gov.ge/bitstream/1234/315118/1/Geologiis\\_Institutis\\_ShromataKrebuli\\_2020.pdf](https://dspace.nplg.gov.ge/bitstream/1234/315118/1/Geologiis_Institutis_ShromataKrebuli_2020.pdf)
7. *N. Machitadze, K. Bilashvili, D. González-Fernández, V. Gvakharia, N. Gelashvili, I. Kuzanova, V. Trapaidze* (2020). Results of the monitoring of the marine and riverine floating macro litter in the Black Sea, Georgia. *Marine Litter in the Black Sea. Marine Litter in the Black Sea. Turkish Marine Research Foundation (Türk Deniz Araştırmaları Vakfı). Marine Litter in the Black Sea. 2020. Publication No: 56.. Pp.171-182* ISBN: 978-975-8825-48-6. [https://tudav.org/wp-content/uploads/2020/10/MarineLitterinthe\\_Black\\_Sea\\_tudav.pdf](https://tudav.org/wp-content/uploads/2020/10/MarineLitterinthe_Black_Sea_tudav.pdf)
8. *N. Machitadze, K. Bilashvili, V. Gvakharia, N. Gelashvili, I. Kuzanova, V. Trapaidze* (2020). Analysis of the monitoring of the beach litter in the Georgia. *Marine Litter in the Black Sea. Marine Litter in the Black Sea. Turkish Marine Research Foundation (Türk Deniz Araştırmaları Vakfı) Publication No: 56. Istanbul, 2020. Pp. 37-47. ISBN: 978-975-8825-48-6.* [https://tudav.org/wp-content/uploads/2020/10/MarineLitterintheBlackSea\\_tudav.pdf](https://tudav.org/wp-content/uploads/2020/10/MarineLitterintheBlackSea_tudav.pdf)
9. *Gelashvili N.E., Maisuradze G.V., Janashvili N.D., Machitadze N.O, Gaprindashvili N.G., Gvakharia V.G.* (2020). Level of Oil Hydrocarbons and their Distribution within the Deep

- Layers of Bottom Sediments of Batumi Coast Guard Harbor and the North Part of Port of Poti. The International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi 's Memory. Tbilisi, Georgia. 2019, 11-12 November. Georgian Technical University. Works. 2020. Pp. 254-255. ISBN 978-9941-8-2009-0 (in Georgian).
10. *Machitadze N., Gvakharia V.G, Gelashvili N.E, Gaprindashvili N.G. and Papashvili I.G.* (2020). Content and Distribution of Metals in Bottom Sediment Deep Layers of Sea Area of Poti Northern Port. The International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi 's Memory. Tbilisi, Georgia. 2019, 11-12 November. Georgian Technical University. Works. 2020. Pp. 249-253. ISBN 978-9941-8-2009-0 (in Georgian).
  11. *Sakvarelidze N., Stamateli M., Gvakharia V.* (2020). Methods of Microbiological Study. The International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi 's Memory. Tbilisi, Georgia. 2019, 11-12 November. Georgian Technical University. Works. 2020. Pp. 247-248. ISBN 978-9941-8-2009-0.
  12. *Gaphrindashvili N. G, Gvakharia V.G., Machitadze N. O., Gelashvili N. G., Papashvili I.G.* (2020). Assessment of Accumulation Processes in the Sea Area of Poti Northern Port. The International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi 's Memory. Tbilisi, Georgia. 2019, 11-12 November. Georgian Technical University. Works. 2020. Pp. 199-201. ISBN 978-9941-8-2009-0 (in Georgian).
  13. *Jgamadze A.K; Maglakelidze A. V; Adamiya T.M; Gvakharia V.G.* (2020). Present Conditions of Shovi Carbon Dioxide Mineral Water Deposit. The International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi 's Memory. Tbilisi, Georgia. 2019, 11-12 November. Georgian Technical University. Works. 2020. Pp. 197-198. ISBN 978-9941-8-2009-0 (in Georgian).
  14. *N. Bagrationi, L. Gverdciteli, A. Surmava, V. Gvakharia* (2020). Numerical Simulation of Arsenic distribution in river Tskhenistskali bottom sediments. The International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi 's Memory. Tbilisi, Georgia. 2019, 11-12 November. Georgian Technical University. Works. 2020. Pp. 143-145. ISBN 978-9941-8-2009-0.
  15. *A. Oros, Y. Deng, V. Gvakharia, N. Machitadze, N. Gelashvili, N. Benashvili, A. Korshenko, A. Luybimtsev* (2019). Trace Metals. Chapter 1.2.6. Commission on the Protection of the Black Sea against Pollution, Istanbul. Black Sea State of Environment. Report 2009-2014/5. 2019. Pp. 176-211. ISBN 978-605-84837-0-5.  
<https://ec.europa.eu/environment/marine/international-cooperation/regional-sea-conventions/bucharest/pdf/SoE2009-2014.pdf>
  16. *L. Zazadze, V. Gvakharia, A. Chirakadze* (2019). Study of some Technological and Economical Characteristics of Processing of the Solid Municipal Waste to Methanol. Bulletin of Georgian National Academy of Sciences, vol. 13, no. 2, 2019, Pp. 89-91. ISSN - 0132 – 1447. <http://science.org.ge/bnas/vol-13-2.html>
  17. *N. Gaphrindashvili, I. Papashvili, N. Machitadze, N. Gelashvili, V. Gvakharia.* (2018). Assessment of Lithodynamic Status of Batumi - Gonio Coastline. Georgia Chemical Journal. 2018. Vol. 18, No1. Pp. 223-228. ISSN 1512-0686 (in Georgian).
  18. *N. Gaphrindashvili, N. Machitadze, V. Gvakharia, I. Papashvili, G. Kavlashvili.* (2018). Evaluation of Deformation of Poti Underwater Canion. Georgia Chemical Journal. 2018. Vol. 18, No1. Pp. 117-222. ISSN 1512-0686 (in Georgian).

19. *N. Machitadze, N. Gaphrindashvili, L. Zazadze, N. Gelashvili, V. Gvakharia.* (2018). Evaluation of Marine Litter on the Georgian Black Sea Beaches. Georgia Chemical Journal. 2018. Vol. 18, No1. Pp. 111-116. ISSN 1512-0686 (in Georgian).
20. *A. Jgamadze, J. Gabechava, V. Gvakharia, D. Sozashvili, B. Lebanidze, T. Jebashvili, A. Maglakelidze* (2018). Assessment of Exploitation Reserves of Nabeghlavi Mineral Water deposit. Annals of Agrarian Science Volume 16, Issue 3, September, 2018. pp. 352-356. ISSN: 1512-1887. <https://doi.org/10.1016/j.aasci.2018.07.003> ; <https://www.sciencedirect.com/science/article/pii/S1512188718301453> .
21. *V. Gvakharia, A. Jgamadze, J. Gabechava, T. Adamia, D. Chkhaidze, T. Jebashvili, D. Sozashvili, B. Lebanidze, A. Maglakelidze* (2018). Uraeli mineral spring and its exploration for industrial development. Annals of Agrarian Science. Volume 16, Issue 1, March 2018, pp. 27-31. ISSN: 1512-1887. <https://doi.org/10.1016/j.aasci.2017.12.004> ; <https://www.sciencedirect.com/science/article/pii/S1512188718300216>
22. *N. Machitadze, N. Gelashvili, V. Gvakharia, K. Bilashvili, V. Trapaidze, N. Gaphrindashvili, A. Maglakelidze* (2018). Monitoring of Marine Beach and Riverine Floating Litter within Georgian Black Sea Coastal Area. Journal of Environmental Protection and Ecology. 2018, Vol. 19, No 2, pp.583-591. ISSN 1311-5065. <http://www.jepe-journal.info/journal-content/vol-19-no-2-1>.
23. *A. Mikaberidze, V. Gvakharia, T. Adamia, G. Zhorzholiani* (2018). Estimation of Noise Pollution of Shalva Nutsbidze and Simon Kandelaki Streets of Tbilisi by Motor Transport. Science and Technologies Scientific Reviewed Magazine. 2018, No 3(729). Pp. 18-25. ISSN 0130-7061 Index 7612. [https://publishhouse.gtu.ge/publichtmlold\\_storage/archit/120/tituli-3729-mecniereba-da-teqnologiebi.pdf](https://publishhouse.gtu.ge/publichtmlold_storage/archit/120/tituli-3729-mecniereba-da-teqnologiebi.pdf) (in Georgian).
24. *Mikaberidze A., Jibladze M. Gvakharia V., Adamia T., Zhorzholiani G.* (2017). Assessment of the State of Noiser Pollution in Some Main Traffic highways of Saburtali District of Tbilisi. Science and Technologies Scientific Reviewed Magazine. 2017, N2 (725). Pp. 39-46. Index 76127. [https://publishhouse.gtu.ge/public\\_html\\_old\\_storage/archit/77/pdf-1501244542-bKzW3sXYla5UY4BKT7FibwkJkrEBOo6Z.pdf](https://publishhouse.gtu.ge/public_html_old_storage/archit/77/pdf-1501244542-bKzW3sXYla5UY4BKT7FibwkJkrEBOo6Z.pdf) (in Georgian).
25. *K. Bilashvili, V. Gvakharia, N. Machitadze, Z. Savaneli, V. Trapaidze* (2017). Creation of the end Product of Oceanographic Data of the Georgian Black Sea Area. 17th International Multidisciplinary Scientific GeoConference (SGEM 2017) Albena, Bulgaria, 2017, 29 June - 5 July. Conference Proceedings. Volume 1, Issue 51. Pp. 263-271 ISBN: 978-1-5108-4819-1. <http://doi.org/10.5593/sgem2017/51> ; [https://www.sgem.org/documents/programme/Publish\\_Programme\\_PUBLISH.pdf](https://www.sgem.org/documents/programme/Publish_Programme_PUBLISH.pdf) ; <https://sgemworld.at/sgemlib/spip.php?article10673>. ISBN: 978-1-5108-4819-1.
26. *V. Gvakharia, J. Gabechava, N. Tsirgiladze, T. Adamia, A. Jgamadze* (2017). Pansheti mineral water deposit and its research for industrial development. Bulletin of St. Andrew the First-Called Georgian University of the Patriarchy of Georgia, 2017, No.3, pp. 171-180. ISSN 1987-734X. (in Georgian).
27. *N. Bagrationi, A. Chirakadze, V. Gvakharia, L. Gverdtsiteli* (2016). Treatment of Arsenic Containing Waste Using Microwave Radiation. Proceeding of the Georgian Academy of Sciences. Chemical series. 2016, Vol. 42, #1. Pp. 96-98. ISSN: 0132-6074 (in Georgian).
28. *V. Gvakharia, J. Gabechava, T. Adamia, A. Jgamadze, B. Lebanidze, D. Sozashvili, A. Maglakelidze, T. Chebashvili* (2016). Operational and Environmental Protection Report of Tskaltubo Termomineral Water Deposit. International Scientific Practical Conference "Modern Technologies and Environment" 19-20 May 2016. Kutaisi, Georgia. Proceedings. Vol. II, Pp. 434-436. ISBN 978-9941-453-91-5. <https://atsu.edu.ge/images/pdf/krebulebi/tomiMETEP%202016.pdf> (in Georgian).

29. *Machitadze N., Gelashvili N., Maisuradze G., Kolomikovi S., Gvakharia V.* (2016). Tbilisi soils contamination with heavy metals and total petroleum hydrocarbons. International Scientific Practical Conference “Modern Technologies and Environment” 19-20 May, 2016 Kutaisi, Georgia. Proceedings. Vol II Pp 422-425 2016. ISBN 978-9941-453-91 <https://ats.u.edu.ge/images/pdf/krebulebi/tomiMETEP%202016.pdf> (in Georgian).
30. *A. Chirakadze; L. Gurchumelia; I. Khomeriki; W.A. Toscano; .I. Bazghadze; I. Geleishvili; V. Gvakharia; T. Geleishvili* (2016). Complex processing of manganese bearing waste and low-grade ores by autoclaving method. International Journal of Global Warming, 2016. Vol.10 No.1/2/3, pp.291 – 306. ISSN (print): 17ISSN (print): 1758-2083ISSN (online). DOI: 10.1504/IJGW.2016.077919 .
31. *A. Chirakadze; Z. Buachidze; A. Giginishvili; P. Kervalishvili; T. Chichua; L. Gurchumelia; T. Berberashvili; I. Khomeriki; G. Kervalishvili; G. Zakharov; G. Oniashvili; M. Wireman; W. A. Toscano; V. Gvakharia; I. Basghadze; I. Geleishvili* (2016). Combined processing of waste organic polymers and manganese bearing waste/low grade ores into fuels and low-carbon manganese alloys. International Journal of Global Warming, 2016 Vol.10 No.1/2/3, pp.242 – 262. ISSN (print): 17ISSN (print): 1758-2083ISSN (online). DOI: 10.1504/IJGW.2016.077916
32. *A. Chirakadze; Z. Buachidze; I. Khomeriki; V. Gvakharia; M. Stamateli; N. Chakvetadze; M. Chokheli; W.A. Toscano; K. Chigogidze; L. Gvertsiteli; N. Bagratioti* (2016). Arsenic pollution of soils and morbidity prevalence in Racha-Lower Svaneti district of Georgia. International Journal of Global Warming, 2016 Vol.10 No.1/2/3, pp.92 – 114. ISSN (print): 17ISSN (print): 1758-2083ISSN (online). DOI: 10.1504/IJGW.2016.077908
33. *A. Chirakadze, P. Kervalishvili, A. Giginishvili, Z. Buachidze, L. Gurchumelia, V. Gvakharia, W. Toscano, N. Kavlashvili.* (2015). Semi-Quantitative Assessment of Application of the Eco-Industrial Park (EIP) Concept for Providing of Environment-Friendly and Profitable Industrial Processing of Waste into Gaseous, Liquid and Solid Fuels and other Highly Demanded Marketable Products. Archil Eliashvili Institute of Control Systems of the Georgian Technical University. Proceedings, №19, 2015. Pp 33-38. ISSN 0135-0765. [https://gtu.ge/Library/Pdf/msi\\_2013.pdf](https://gtu.ge/Library/Pdf/msi_2013.pdf)
34. *G. Tsintskaladze, T. Kordzakhia, V. Gvakharia, P. Tsintskaladze, M. Zautashvili, N. Burkiashvili* (2015). Ecological Factors Affecting Sandstone and Zeolites Used in Georgian Architecture. Transactions of Petre Melikishvili Institute of Physical and Organic Chemistry.2015, Pp. 152-155 (in Georgian).
35. *A. Mikaberidze, V. Gvakharia, M. Jibladze, T. Adamia, G. Zhorzholiani* (2015). Estimation of Noise Pollution of I. Chavchavadze Avenue of Tbilisi by Motor Transport. Alexandre Janelidze Institute of Geology of Ivane Javakhishvili Tbilisi State University. Proceedings. New Series. 2015, Vol. 127. Pp. 211-214. [https://dspace.nplg.gov.ge/bitstream/1234/315114/1/Geologii s Institutis Shromata Krebuli 2015.pdf](https://dspace.nplg.gov.ge/bitstream/1234/315114/1/Geologii%20s%20Institutis%20Shromata%20Krebuli%202015.pdf) (in Russian).
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39. *P. Kervalishvili, A. Chirakadze, A. Gigineishvili, Z. Buachidze, D. Jishiasvili, M. Wireman, W. Toscano, G. Kervalishvili, G. Sergeenko, V. Gvakharia* (2014). Microwave in Environmental Technologies and Synthesis of Nano-materials: The Georgian Experience. Nuclear Radiation Nanosensors and Nanosensory Systems. Proceedings of NATO Advanced Research Workshop, Tbilisi, Georgia, 6-9 March, 2014 pp. 91-150. ISBN 978-94-017-7472-7(pb); ISBN 978-94-017-7475-6 (HB) ISBN 978-94-017-7468-0 (e-book) ; DOI 10.1007/978-94-017-7468-0; DOI: 10.1007/978-94-017-7468-0. <https://ur.booksc.me/book/52848152/b0411d>
40. *P. Kervalishvili, A. Chirakadze, A. Gigineishvili, Z. Buachidze, D. Jishiasvili, M. Wireman, W. Toscano, G. Kervalishvili, G. Sergeenko, V. Gvakharia* (2014). Microwave Enhanced Producing of High-Purity Metallic Manganese and Complex Manganese Based Alloys. Nuclear Radiation Nanosensors and Nanosensory Systems. Proceedings of NATO Advanced Research Workshop, Tbilisi, Georgia, 6-9 March, 2014 pp. 151-160. ISBN 978-94-017-7472-7(pb); ISBN 978-94-017-7475-6 (HB) ISBN 978-94-017-7468-0 (e-book) ; DOI 10.1007/978-94-017-7468-0 DOI: 10.1007/978-94-017-7468-0. <https://ur.booksc.me/book/52848152/b0411d>
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42. *N. Bagrationi, L. Gverdtsiteli, V. Gvakharia, A. Chirakadze, T. Sharashidze* (2014). Description of the Ecological State of Storage and Desposal Facilities of Arsenic Bearing Waste. Proceedings of the Georgian National Academy of sciences. Chemical series, 2014. Vol.40, №4, Pp. 309-312. ISSN: 0132-6074 (in Georgian).
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44. *A. Chirakadze, Z. Buachidze, A. Gigineishvili, L. Gurchumelia, G. Kervalishvili, M. Wireman, T. Chichua, V. Gvakharia, I. Basghadze, I. Geleishvili* (2014). Combined processing of waste organic polymers and manganese bearing waste/low grade into fuels and low-carbon manganese alloys. 13th International Conference on Clean Energy (ICCE-2014) June 8-12, 2014. Istanbul, Turkey. pp. 1425-1435. <https://vdocument.in/download/conference-program-sunday-june-8-13th-international-conference-on-clean-energy>
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46. **V. Gvakharia et al** (2012). Physical, chemical and biological technologies for hazard mitigation: Results and Findings. Georgia Chemical Journal, January 2012, p. 15. ISSN 1512-0686 (in Georgian).
47. **V. Gvakharia, N. Machitadze, N. Gelashvili, N. Benashvili** (2011). Results of chemical monitoring of Supsa oil transshipment terminal (2001, 2006 and 2009). Experimental and Clinical Medicine, 2011, No 3, pp. 75-79. ISSN 1512-0392 (in Georgian).
48. **G. Bzhalava, V. Gvakharia, T. Adamia** (2011). Manganese Pollution Problems in Chiatura Mining Region. Experimental and Clinical Medicine, 2011, No 3, pp. 71-74. ISSN 1512-0392 (in Georgian).
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### Grant projects

1. EMODNET 3 Chemistry EASME/EMFF/2016/ 1.3.1.2/lot4 # SI2.749773. EU, UNDP. 01.07.2017 30.07.2019. Researcher.
2. FP7 European Marine Observation and Data Network (EMODNET) Chemistry 2. Project MARE/2012/10LOT4-SI2.656742) 2013 – 2016. EU, UNDP. Researcher.
3. Improving Environmental Monitoring in the Black Sea (# 84971) EMBLAS I. EU, UNDP. 01.2013 - 12.2014. Researcher.
4. 2015 - 2018 – UNDP Grant Improving Environmental Monitoring in the Black Sea (#88460) EMBLAS II. 01.05.2016 31.12.2018. EU, UNDP. Researcher.
5. EMBLAS-Plus - (Improving Environmental Monitoring in the Black Sea – Special Measures) 01.06.2019-05.03.2021. EU, UNDP. 01.06.2019 - 05.03.2021. Researcher
6. EMODnet Ingestion and safe-keeping of marine data (UMDP, project EASME/EMFF/2015/1.3.1.3/SI2.727770) . EU. 05.2016 - 09.2021. Researcher.
7. „Policy-oriented marine environment research in the southern European Seas (# 287600) PERSEUS. UNDP 01.2012 - 12.2015. Researcher.
8. UNDP Grant MARE/2012/10 LOT4-SI2.656742 EMODnet Chemistry 2. FP7 European Marine Observation and Data Network (EMODNET) Chemistry 2.. 01.03.2014-15.08.2016. Researcher.
9. FP7- Up-grade Black Sea Scientific Network. CORDIS FP7-Infrastructures-2008-1, #226592. ევროკომისია. 2009-2011. Researcher
10. STCU-N<sup>o</sup> p322b. Regional evaluation of mining-related metals contamination, risks, and innovative remediation technologies in Ukraine and Georgia. Science and Technology Center in Ukraine 01.09.2011-31.08.2013. P 2002 2825 B. Project Manager
11. STCU #5246 Study of arsenic contaminated territories and identification of environmental risks. Shota Rustaveli National Scientific Foundation of Georgia and Science and Technology Center in Ukraine. 2010-2011. Project Leader.

12. STCU-GNSF #4995 “Eco toxicological Impact of manganese on children health”. Shota Rustaveli National Scientific Foundation of Georgia and Science and Technology Center in Ukraine. 2009. Project Manager.
13. GNSF/STO7/5-206 “Study of geochemistry of the Georgian sector of the Black Sea and dynamics of accumulation of pollutants”. Shota Rustaveli National Scientific Foundation of Georgia. 01.01.2008 - 31.12.2009. Project Research Director.
14. 4.12.02. Georgia’s Palaeogeography in a Quarter. Georgian National Academy of Sciences 2002-2003. Participant.

### **Additional Information**

#### **Other Work Experience**

1997 – 2006 - Ltd Zenith GAMMA Consulting” Britannia –Georgian consultation service, President;

Since 1991 up to date - Scientific Research Firm GAMMA, President;

2011-2017 - Ltd GAMMA Consulting Director.

#### **Teaching Activities**

2009 – 2016 - St. Andrew the First-Called Georgian University of the Patriarchate of Georgia. School of Informatics, Mathematics and Natural Sciences. Bachelor’s educational program “Applied Ecology”, head 2009 – 2016 - St. Andrew the First-Called Georgian University of the Patriarchate of Georgia. School of Informatics, Mathematics and Natural Sciences. Master’s educational program “Ecology”, Head.

2009 – 2017 - St. Andrew the First-Called Georgian University of the Patriarchate of Georgia. School of Informatics, Mathematics and Natural Sciences. Doctoral educational program “Ecology and environment protection”, Head.

2012 – 2017 - St. Andrew the First-Called Georgian University of the Patriarchate of Georgia. School of Informatics, Mathematics and Natural Sciences. Head of section of dissertation council “Ecology and environmental protection”.

1975 – 2015 - Iv. Javakishvili Tbilisi State University. Lector, different courses of physical chemistry and structure of matter.

#### **Scientific Advisor of the Dissertations:**

1. T. Adamia. (PhD Degree). Dissertation “Concentrating of Microcontent of Niobium Compounds by the Chelate Sorbents and its Determination in Natural Mineral Matters” 29.06.1990.
2. N. Machitadze. (PhD Degree). Dissertation “Content and Distribution of Heavy Metals in the Contemporain Sediments of Georgian Sector of the Black Sea“. 20.12.2002.
3. N. Gelashvili. (PhD Degree). Dissertation “Study of the quality of oil hydrocarbon pollution in Georgian Sector of the Black Sea”. 17.12.2004.
4. R. Khargelia (PhD Degree). Dissertation “Hydrochemical and Ecological Investigation of Borjomi Mineral Water Deposit” 27.10.2007.
5. N. Benashvili. (PhD Degree). Dissertation „Issues of the Ecogeochemistry of the Georgia Sector of the Black Sea“. 12.12.2012.
6. L. Bedenashvili (PhD Degree). Dissertation “Environmental Impact Assessment of Airports

of Georgia and Working out the Mitigation Measures 18.04.2019.

7. L. Zazadze. (PhD Degree). Dissertation "An assessment of the environmental and economic potential of processing of the solid municipal waste materials into methanol in Georgia" 17.04.2019.
8. N. Gaphrindashvili (PhD Degree). "Measurement of geomorphological and geodynamic changes and risks of the Black Sea coastline for marine infrastructure development". 15.04.2019.
9. A. Jgamadze (PhD Degree). Dissertation „Hydrogeology and Freshwater resources of Mukhrani Artesian Basin”. 2020.

#### **Patents**

1. P 2002 2825 B. National Intellectual Property Center of Georgia SAKPATENTI. Tariel Adamia, Manana Mamporia, Tsisana Gagnidze, Jondo Gvelesiani, Tamaz Lezhava, **Vakhtang Gvakharia**, Guram Gvelesiani. Method for Obtaining Gold. 4717/1.
2. P 2011 5334 B. National Intellectual Property Center of Georgia SAKPATENTI. Tamaz Beridze, Givi Talakvadze, Alexander Mikaberidze, Zurab Razmadze, Vakhtang Gvakharia, Merab Jibladze Method for Reception of Hydrogen and Sulfur from the Natural Reservoir. 11492/1.