



**Nino Machitadze**

**Position**

Major scientist, Al. Janelidze Institute of Geology of Iv. Javakhishvili Tbilisi State University, Department of Environmental Protection.

**Scientific/academic degree, title**

PhD (2002). Dissertation “Content and Distribution of Heavy Metals in the Contemporain Sediments of Georgian Sector of the Black Sea“.

**Contact information**

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**Education**

1973-1978 – Iv. Javakhishvili Tbilisi State University, Faculty of Chemistry, Specialty: Analytical Chemistry Master’s.

1980-1984 – I.Chavchavadze Tbilisi state Institute of the Foreign Languages, Specialty French language. Master’s.

**Employment history**

1986-2004 – Al. Janelidze Institute of Geology of Georgian Academy of Sciences, Department of Physicochemical Researches. Minor scientist.

2004-2005 – LEPL Al. Janelidze Institute of Geology, Department of Physicochemical Researches. Scientist.

2005 – 2016 – Janelidze Institute of Geology, Department of Physicochemical Researches of the Environment, Major Scientist.

2017- up to date - Al. Janelidze Institute of Geology of Iv. Javakhishvili Tbilisi State University, Department of the Environmental Protection. Major scientist.

## Research interests

Analytical chemistry, instrumental methods of analysis; Chemical investigations of waters, soils, bottom sediments, biological materials; Chemical analysis rocks and minerals; Methodology of environmental control and assessment; Analytical data quality and management; Ecology, Black sea ecology, hydrochemistry, geochemistry; Field works management; analytical works quality management of chemical laboratories; Technical assessing of chemical laboratories

## 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. *D. Gonzalez-Fernandez, G. Hanke, M. Pogojeva, N. Machitadze, Y. Kotelnikova, I. Tretiak, O. Savenko, K. Bilashvili, N. Gelashvili, A. Fedorov, D. Kulagin, A. Terentiev, J. Slobodnik* (2022). Floating marine macro litter in the Black Sea: Toward baselines for large-scale assessment. *Environmental Pollution* 309 (2022) 119816. <https://doi.org/10.1016/j.envpol.2022.119816>
3. *D. Gonzalez-Fernandez, A. Cozar, G. Hanke, J. Viejo, C. Morales-Caselles, R. Bakiu, D. Barcelo, F. Bessa, A. Bruge, M. Cabrera, J. Castro-Jimenez, M. Constant, R. Crosti, Y. Galletti, A.E. Kideys, N. Machitadze, J. Pereira de Brito, M. Pogojeva, N. Ratola, J. Rigueira, E. Rojo-Nieto, O. Savenko, R. I. Schoneich-Argent, G. Siedlewicz, G. Suaria and M. Tourgeli* (2021). Floating macrolitter leaked from Europe into the ocean. *Nature Sustainability*, 2021. Vol. 4, Pp. 474–483. EISSN 2398-9629. <https://doi.org/10.1038/s41893-021-00722-6>
4. *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/wpcontent/uploads/2020/10/MarineLitterintheBlackSea\\_tudav.pdf](https://tudav.org/wpcontent/uploads/2020/10/MarineLitterintheBlackSea_tudav.pdf)
5. *M. Pogojeva, D. González-Fernández, G. Hanke, N. Machitadze, Y. Kotelnikova, I. Tretiak, O. Savenko, N. Gelashvili, K. Bilashvili, D. Kulagin, A. Fedorov* (2020). Composition of floating macro litter across 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. 161-170. 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)
6. *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/MarineLitterintheBlackSea\\_tudav.pdf](https://tudav.org/wp-content/uploads/2020/10/MarineLitterintheBlackSea_tudav.pdf)
7. *D. González-Fernández, M. Pogojeva, G. Hanke, N. Machitadze, Y. Kotelnikova, I. Tretiak, O. Savenko, N. Gelashvili, K. Bilashvili, D. Kulagin, A. Fedorov, M. Çağan Şenyiğit, Ü. Aytan* (2020). Anthropogenic litter input through rivers 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. 183-191. 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)
8. *Gelashvili N.E., Maisuradze G.V., Janashvili N.D., Machitadze N.O, Gaprindashvili N.G., Gvakharia V.G.* (2019). 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).
9. **Machitadze N., Gvakharia V.G, Gelashvili N.E, Gaprindashvili N.G. and Papashvili I.G.** (2019). 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).
  10. **Gaprindashvili N. G, Gvakharia V.G., Machitadze N. O., Gelashvili N. G., Papashvili I.G.** (2019). 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)
  11. **A. Oros, Y. Denga, 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>
  12. **N. Gaprindashvili, 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)
  13. **N. Gaprindashvili, 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)
  14. **N. Machitadze, N. Gaprindashvili, 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).
  15. **N. Machitadze, N. Gelashvili, V. Gvakharia, K. Bilashvili, V. Trapaidze, N. Gaprindashvili, 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>.
  16. **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. <http://doi.org/10.5593/sgem2017/51>[https://www.sgem.org/documents/programme/PublishProgramme\\_PUBLISH.pdf](https://www.sgem.org/documents/programme/PublishProgramme_PUBLISH.pdf); <https://sgemworld.at/sgemlib/spip.php?article10673> ISBN: 978-1-5108-4819-1
  17. **Y. Denga, I. Orlova, V. Komorin, Y. Oleynik, A. Korshenko, K. Hushchyna, N. Lukyanova, S. Kochetkov, M. Arabidze, N. Machitadze, N. Gelashvili, H. Bakradze, E. Kitoshvili, V. Medinets, G. Zolotarov, V. Chasovnikov, I. Matveeva, S. Zhugailo** (2016). Chapt. V.1. DESCRIPTOR 8: Contaminants in the environment. National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, 2016. Final Scientific Report. Pp. 282-338.

18. *Y. Denga, Y. Oleynik, K.Hushchyna, A. Korshenko, N. Lukyanova, S. Kochetkov, D. Samsonov, N. Machitadze, V. Medinets, V. Chasovnikov* (2016). Chap. VI.1. Descriptor 8 and 9: Concentrations of contaminants in fish and seafood. National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, Final Scientific Report. 2016. Pp. 400-411.
19. *M. Pogojeva, G. Hanke, D.Gonzalez, O. Savenko, N. Machitadze, I.Tretiak, S. Nikolaishvili, K. Bilashvili, Y. Kotelnikova, V.Ocherednik, S. Bukreev, A.Fedorov, S.Gorin* (2016). Chapt. VII. DESCRIPTOR 10: Marine litter National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, Final Scientific Report 2016. Pp. 426-450.
20. *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 978-9941-453-91-5. [https://atsu.edu.ge/images/pdf/krebulebi/tom\\_iMETEP%202016.pdf](https://atsu.edu.ge/images/pdf/krebulebi/tom_iMETEP%202016.pdf) (inGeorgian).
21. *V. Gvakharia, K. Bilashvili, N. Machitadze, N. Gelashvili, G. Maisuradze, T. Adamia, Ts. Khukhunia* (2015).Precondition of the Development of Black Sea Environmental National Monitoring Programs and Subprograms.AlexandreJanelidze Institute of Geology of IvaneJavakhishvili Tbilisi State University. Proceedings. 2015. New Series. Vol. 127. Pp. 206-210. [https://dspace.nplg.gov.ge/bitstream/1234/315114/1/Geologiis Institutis Shromata Krebuli 2015 .pdf](https://dspace.nplg.gov.ge/bitstream/1234/315114/1/Geologiis%20Institutis%20Shromata%20Krebuli%202015.pdf) (in Georgian).
22. *V.Gvakharia, J.Gabechava, T.Adamia1, N. Tsirghiladze, N. Machitadze, N. Gelashvili, Ts. Khukhunia, B.Lebanidze* (2015). Study of Ksani ground water deposit with the aim of its industrial development AlexandreJanelidze Institute of Geology of IvaneJavakhishvili Tbilisi State University Proceedings. 2015. New Series. Vol. 127. Pp. 200-206. [https://dspace.nplg.gov.ge/bitstream /1234/315114/1/Geologiis Institutis Shromata Krebuli 2015 .pdf](https://dspace.nplg.gov.ge/bitstream/1234/315114/1/Geologiis%20Institutis%20Shromata%20Krebuli%202015.pdf) (in Georgian).
23. *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).
24. *V. Gvakharia, N. Machitadze, N. Gelashvili, N. Benashvili* (2011). Hydrochemical Investigation of Black Sea Rivers’ Downstream in Georgian Sector. The Innovation processes in ICSTI”. International Information-analytical collection. 4th edition “Production problems of clean water and its innovative way-outs”. 2011. p. 69-79. [http://www .icsti.su/portal /products ?/lang= e&id=21](http://www.icsti.su/portal/products/?lang=e&id=21) (in Russian).
25. *N. Benashvili, V. Gvakharia, N. Machitadze, Ts. Khukhunia, T. Adamia* (2010). Manganese and arsenic content in solid drift of the River Rioni and bottom sediments of the estuary. Georgian Technical University. International Scientific-technical conference “Sustainable development and protection of environment. Transactions. 2010. p. 311-313. ISBN 978-9941-14-868-2. (in Georgian).
26. *V. Gvakharia, N. Machitadze, M. Stamateli, N. Gelashvili, N. Benashvili, Ts. Khukhunia, L. Khomeriki* (2010). Content and Distribution of Metals and Petroleum Hydrocarbons in the Black Sea Bottom Sediments within the Coastal Zone in the Limits of Georgia (according to the 2008 data). AlexandreJanelidze Institute of Geology. Proceedings. New Series, 2010. vol. 125, p. 89 – 97. [https://dspace.nplg.gov.ge/bitstream /1234/315111/1/Geologiis Institutis Shromata Krebuli 2010.pdf](https://dspace.nplg.gov.ge/bitstream/1234/315111/1/Geologiis%20Institutis%20Shromata%20Krebuli%202010.pdf) (in Georgian).
27. *N. Benashvili, V. Gvakharia, N. Machitadze, N. Gelashvili, L. khomeriki, Ts. Khukhunia* (2010). Sediments in the Downstream Sections of the Black Sea Basin Rivers of Georgia. Experimental and Clinical Medicine, 2010. No4 (59), pp. 107-111. ISSN 1512-0392. (in Georgian).

28. *V. Gvakharia, N. Machitadze, N. Gelashvili, N. Benashvili*. (2009). Hydrochemical investigation of Black Sea Rivers Downstream in Georgian Sector. Bulletin of St. Andrew The First-Called Georgian University of the Patriarchy of Georgia, No.1, pp. 143-149. ISSN 1987-734X.
29. *A. Korshenko, Y., V.Gvakharia, N. Machitadze, A. Oros* (2009). The State of Trace Metals. Commission on the Protection of the Black Sea against Pollution. 2008. State of the Environment of the Black Sea (2001-2006/7). 3.3. The State of Trace Metals. Pp. 150-162. ISBN 978-9944-245-33-3147-149.  
<http://www.blacksea-commission.org/publ-SOE2009-CH3.asp>;<http://www.gelbalder.org/yurtdisi-yayinlar/4675-karadeniz-raporu-state-environment-black-sea.html>
30. *V. Gvakharia, N. Machitadze*. (2008). Nature of Distribution of Metals in Bottom sediments of the Chorokhi and Acharistskali rivers A. Janelidze Geological Institute, Proceeding, New Series, Vol.124. p.264-267. [https://dspace.nplg.gov.ge/bitstream/1234/315098/1/Geologiis Institutis Shromata Krebuli 2008.pdf](https://dspace.nplg.gov.ge/bitstream/1234/315098/1/Geologiis%20Institutis%20Shromata%20Krebuli%202008.pdf) (in Russian).
31. *V. Gvakharia, N. Machitadze, N. Gelashvili, D. Girgvliani* (2006). Chemical ecology of the bottom sediments of the Georgian sector of the Black Sea .Proceedings. The sciences of Earth. Azerbaijan National Academy of Sciences. 2006. No 4.p. 44-49. ISBN 9952-437-18-8 (Russian).
32. *V. Gvakharia, Ts. Khukhunia, G. Jaoshvili, N. Machitadze, I. Papashvili* (2006). Monitoring of coastal zone dynamics and quality of water and bottom sediments of Kulevi Oil Terminal area. Proceedings of the 7<sup>th</sup> International Congress "Water: Ecology and Technology – ECWATECH-2006". Proceedings of the Congress. Vol. II. Pp. 321-322. (in Russian).
33. *G. Adamia, T.Varazashvili, T. Ananiashvili, M. Kurashvili, M. Pruidze, V. Gvakharia, N. Machitadze, M. Gordeziani* (2005). Study of Lead Accumulation Ability of some Sowing Plants. Bulletin of the Georgian Academy of Sciences, 2005. Volume 171, number 3. ISSN - 0132 – 1447.[http://science.org.ge/old/moambe/New/pub15/171\\_3/171\\_3.htm](http://science.org.ge/old/moambe/New/pub15/171_3/171_3.htm)
34. *V.G. Gvakharia, N.O.Machitadze, G.V.Maisuradze, R.G.Khargelia, N.E.Gelashvili* (2004). Heavy metals and petroleum hydrocarbons content in bottom sediments of Supsa oil transshipment terminal water area. A. Janelidze Geological Institute, Proceeding, New Series, 2004, Vol. 119, pp. 840-844. [Geologiis Institutis Shromata Krebuli 2004.pdf](#) (in Russian).
35. *V.G. Gvakharia, N.O.Machitadze, G.V.Maisuradze, R.G.Khargelia, N.E.Gelashvili* (2004). Heavy metals and petroleum hydrocarbons content in bottom sediments of Supsa oil transshipment terminal water area. A. Janelidze Geological Institute, Proceeding, New Series, 2004, Vol. 119, pp. 840-844. [Geologiis Institutis Shromata Krebuli 2004.pdf](#) (in Russian).
36. *V. Gvakharia, N. Machitadze, M. Tvalchrelidze* (2004). Use of chemical elements as markers in determining of the boundaries of dynamic systems of the Black Sea southeastern part. //VI Conference "Dynamics and Thermic of rivers, reservoirs and sea coastal zones". Moscow, Russia. Proceedings. Pp. 328-331. (in Russian).
37. *V.Gvakharia,N.Machitadze, A.Tvalchrelidze* (2002). Distribution of Cu, Zn, Mo and Fe in contemporary marine sediments of the Georgian sector of Black Sea//Proceedings of Alexandre Janelidze Institute of Geology, New Series, Vol.117, Pp. 424-429. [https://dspace.nplg.gov.ge/bitstream/1234/315094/1/Geologiis InstitutisShromata Krebuli 2002.pdf](https://dspace.nplg.gov.ge/bitstream/1234/315094/1/Geologiis%20InstitutisShromata%20Krebuli%202002.pdf) (in Russian).
38. *M. Tvalchrelidze, V. Gvakharia, N. Machitadze* (2001). Particularities of distribution of chemical elements and its forms in contemporary sediments of Black sea (Georgian sector). //Actual Problems of Geography of Georgia. "Metsniereba", Tbilisi. Pp. 295-303 (in Georgian).
39. *N. Machitadze, M. Tvalchrelidze, V. Gvakharia* (2001). Particularities of geochemical zones formation in the sediments of south-eastern sector of the Black sea Georgia. //Bull. of Georgian Academy of Sciences, 163, No 2, pp. 297-300.

40. **N. Machitadze**, V. Gvakharia, A. Tvalchrelidze (2001). Vanadium and chromium content in present sediments of Georgian sector of the Black sea. Bull. of Georgian Academy of Sciences, 164, No 3, pp. 501-504.
41. **Н.Мачитадзе**, В.Гвахария, А. Твалчрелидзе (2000). О распределении марганца в осадках грузинского сектора Черного моря. Georgian Engineering News, N 4, с.138-144 (in Russian).
42. M. Tvalchrelidze, V. Gvakharia, **N. Machitadze**, G. Jaoshvili (1999). Heavy Metals in the Recent Bottom Sediments in Georgian Sector of the International Workshop "Geologic, Geophysics and Geochemic Researches in the Black Sea. pp. 20-22. (in Georgian).
43. V. Gvakharia, G. Samarguliani, **N. Machitadze** (1997). Influence of Anthropogenic Factors on the Distribution of Heavy Metals in Waters and Soils of Bolnisi Region. Bull of Georg. Acad. of Sci., 156, No 1, Pp. 81-85.
44. V. Gvakharia, G. Samarguliani, **N. Machitadze** (1997). Influence of Anthropogenic Factors on the Distribution of Heavy Metals in Waters and Soils of Bolnisi Region. Bulletin of Georgian Academy of Sciences. Vol. 156, No 1, pp. 81-85
45. **N. Machitadze**, Ts. Khukhunia (1998). Distribution of Heavy Metals in soils of Bolnisi District. // Proceedings of Alexandre Janelidze Institute of Geology, Pp. 272-276.
46. M. Tvalchrelidze, **N. Machitadze** (1997). Peculiarities in the Distribution of Chemical Elements in the Georgian Sector of the Black Sea. IOC/BSRC Workshop on the Black Sea Fluxes. Istanbul, Turkey. Proceedings. pp. 73-85.

### Citation index

Web of Science – 34, H-3; Scopus – 29, H-1; Google Scholar – 59, H-3.

### Participation in scientific events

1. Content and distribution of metals in bottom sediments deep layers of sea area of Poti northern port. **Machitadze N.**, Gvakharia V., Gelashvili N., Gaphrindashvili N., Papashvili I. (2019) 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. Abstracts. Pp. 144-145 (in Georgian).
2. Level of oil hydrocarbons and their distribution within the deep layers of bottom sediments of Batumi coastal guard harbor and the north part of port of Poti. Gelashvili N., Maisuradze G., Janashvili **Machitadze N.**, Gaphrindashvili N., V. Gvakharia (2019 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. Abstracts. Pp. 143-144 (in Georgian).
3. Assessment of accumulation processes in the sea area of Poti northern port. N Gaphrindashvili N., V. Gvakharia, **Machitadze N.**, Gelashvili N., Papashvili I. (2019). International Scientific Conference "Environmental Protection and Sustainable Development" dedicated to Professor Victor Eristavi's Memory. Tbilisi, Georgia, 2019. 11-12 November, Georgian Technical University. Abstracts. Pp. 115-117 (in Georgian).
4. Floating marine macro litter monitoring in the Black Sea: EMBLAS II experience. Maria Pogojeva, **Nino Machitadze**, Nino Gelashvili, V. Gvakharia, Kakha Bilashvili (2018). Sixth International Marine Debris Conference, San Diego, California, USA. 2018, March 12-16, Book of abstracts. P. 162. National Oceanic and Atmospheric Administration (NOAA) and the United Nations Environment Programme (UN Environment). Book of abstracts. 2018. P. 162. [http://internationalmarinedebrisconference.org/wp-content/uploads/2018/05/6IMDC\\_Book-of-Abstracts\\_2018.pdf](http://internationalmarinedebrisconference.org/wp-content/uploads/2018/05/6IMDC_Book-of-Abstracts_2018.pdf)

5. Black Sea monitoring to evaluate the ecological state of the sea water in the Georgian coastal area“ R. Diakonidze, K. Bilashvili, V. Trapaidze, I. Baramidze, T. Supatashvili, B. Diakonidze, **N. Machitadze**, N. Gelashvili and V. Gvakharia. IMDIS 2018 International Conference on Marine Data and Information Systems. Barcelona, Spain. 2018, 5-7 November. CSIC (Consejo Superior de Investigaciones Cientificas, Spain), jointly with IFREMER, OGS and IOC/IODE, in the frame of the SeaDataCloud project (EU H2020 Grant Agreement 730960). Bollettino di Geofisicacateoricaedapplicata. Vol. 59, Supplement 1, Pp.312-313. <https://bgo.ogs.it/pdf/IMDIS2018-Cover.pdf>
6. Monitoring of Marine Beach and Riverine Floating Litter within Georgian Black Sea Coastal Area“ **N. Machitadze**, N. Gelashvili, V. Gvakharia, K. Bilashvili, Trapaidze, N. Gaprindashvili, A. Maghlakelidze (2017). International Symposium “Protection of the Black Sea Ecosystem and Sustainable Management of Maritime Activities” PROMARE 2017“, Constanta, Romania, 2017, 7-9 September. The National Institute for Marine Research and Development “GRIGORE ANTIPA“ (NIMRD).  
[Book of Abstracts. Pp. 126 – 127. ISBN 987-606-528-382-4. http://www.rmri.ro/Home/Downloads/Publications.Symposia/Promare2017.BookOfAbstracts.pdf](http://www.rmri.ro/Home/Downloads/Publications.Symposia/Promare2017.BookOfAbstracts.pdf)
7. Monitoring of Beach Litter within Georgia’s Black sea Coast“**N. Machitadze**, N. Gelashvili, V. Gvakharia, A. Maghlakelidze, N. Gaprindashvili. Power of Geology is the Preconditions for Regeneration of Economics. International Scientific–Practical Conference on up-to date Problems of Geology. Tbilisi, Georgia. 2016, 19 – 20 May. Mineralogical Society of Georgia. Georgian Technical University. Book of Abstracts. Pp. 85-89. ISBN 978-9941-20-649-8.
8. The Marine Strategy Framework Directive (MSFD) implementation in the Black Sea for improving the monitoring of the marine environment (Project – EMBLAS, first phase). Bilashvili, D. Kereselidze, V. Trapaidze, V. Gvakharia, **N. Machitadze**. Iv. Javakhishvili Tbilisi State University. 3rd Scientific Conference in Exact and Natural Sciences ENS-2015. Tbilisi, Georgia, 2015, 2-7 February. Abstracts. P. 97.
9. Petroleum Hydrocarbon pollution of soil in Tbilisi“ G. Maisuradze, V. Gvakharia, **N. Machitadze**, N. Janashvili, T. Tskhiereli(2014). International Mass Spectrometry Conference on Petrochemistry and Environmental PETROMASS 2014. Tbilisi, Georgia. 2014, 1-4 September. I. Javakhishvili Tbilisi State University, P. Melikishvili Institute of Physical and Organic Chemistry, Georgian Association of Petrochemists. Book of Abstracts, p. 45-46. ISBN 978-9941-22-378-5.
10. “Content of Mn and As in the river Rioni Hydrosystem and Estuarine Zone Bottom Sediments V. Gvakharia, **N. Machitadze**, N. Benashvili, G. Bzhalava, Ts. Khukhunia, T. Adamia. 3rd Bi-annual BS Scientific Conference and UP-GRADE BS-SCENE Project Joint Conference. Odessa, Ukraine. 2011, 1 - 4 November. The commission on the protection of the black sea against pollution (Black Sea Commission) & Ministry of environment and natural resources of ukraine & Up-grade black sea scientific network –EC FP7 project with the support of European commission Ukrainian scientific center of ecology of the sea. Abstracts, p. 36.
11. Petroleum Hydrocarbon Pollution Survey of Georgian Black Sea Basin Rivers. N. Gelashvil, V. Gvakharia, G. Maisuradze, **N. Machitadze**, N. Janashvili. 3rd Bi-annual BS Scientific Conference and UP-GRADE BS-SCENE Project Joint Conference. Odessa, Ukraine. 2011, 1 - 4 November. The commission on the protection of the black sea against pollution (Black Sea Commission) & Ministry of environment and natural resources of ukraine & Up-grade black sea scientific network –EC FP7 project With the support of European commission Ukrainian scientific center of ecology of the sea. Abstracts, p. 34.

12. Study of the coastal zone and the lower streams of the rivers within the Black Sea Georgian sector. V. Gvakharia, **N. Machitadze**, G. Bedenashvili, G. Maisuradze, N. Benashvili, Ts. Khukhunia, B. Lebanidze. The International Scientific Conference „Promblems of Geology of the Caucasus“ dedicated to the 85-th anniversary of Alexandre Janelidze Institute of Geology. Tbilisi, Georgia, 2010, 25-27 November. A. Janelidze Institute of Geology of I. Javakhishvili Tbilisi State University. Abstracts. Pp. 44-45.
13. Study of distribution of halkophile elements in the Black Sea area adjacent to Chorokhi river mouth. Gvakharia, V.; **Machitadze, N.**; Khargelia, R.; Girgvliani, D.; Khukhunia, T.; Elashvili, M. EGS - AGU - EUG Joint Assembly, Abstracts from the meeting held in Nice, France, 6 - 11 April 2003, abstract id. 5296. Nice, France, 2005, 6-11 April. European Geophysical Society. American Geophysical Union; European Union of Geosciences.
14. Heavy metal content in sea bottom sediments within the coastal area of the Georgian sector of the Black sea. Gvakharia V., **Machitadze N.**, Khargelia R., Girgvliani D. (2002) 5th international Congress "Water: Ecology and Technology" ECWATECH 2002, Moscow, Russia. 2002, 4-7 June. The Ministry of Natural Resources of the Russian Federation; The State Committee of the Russian Federation for Construction and Municipal Infrastructure; Russian Academy of Science; Russian Association for Water Supply and Water Disposal; Moscow Waterworks "Mosvodokanal"; St. Petersburg Waterworks Vodokanal of St. Petersburg"; Berliner Wasserbetriebe; SIBICO International Ltd. Abstracts. P. 48.
15. Litho-geochemical Particularities of the Bottom Sediments of Georgian South-Eastern Part of the Black sea. M. Tvalchrelidze, **N. Machitadze**, G. Ruso, N. Megreli, G. Tumanishvili. (1995). UNESCO-MAB Regional Conference "Sea and Men", July, 1995, Tbilisi, Georgia. Abstracts. Pp. 76-79.

### Grant projects

1. EMODNET 3 Chemistry EASME/EMFF/2016/ 1.3.1.2/lot4 # SI2.749773. EU. 01.07.2017 30.07.2019. Scientist.
2. FP7 European Marine Observation and Data Network (TEMODNET) Chemistry 2. Project MARE/2012/10LOT4-S12.656742) EU, UNDP. 2013 – 2016. Scientist.
3. Improving Environmental Monitoring in the Black Sea (# 84971) EMBLAS I .EU, UNDP. 01.2013 - 12.2014. Scientist.
4. 2015 - 2018 – UNDP Grant Improving Environmental Monitoring in the Black Sea (#88460) EMBLAS II. EU, UNDP. 01.05.2016 31.12.2018. Scientist.
5. EMBLAS-Plus - EMBLAS-Plus (Improving Environmental Monitoring in the Black Sea – Special Measures) Phase III. EU, UNDP. 01.06.2019 - 05.03.2021. Scientist.
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. Scientist.
7. Policy-oriented marine environment research in the southern European Seas (# 287600) PERSEUS .EU, 7th FP. 01.2012 - 12.2015. Scientist.
8. MARE/2012/10 LOT4-S12.656742 EMODnet Chemistry 2; FP7 European Marine Observation and Data Network (TEMODNET) Chemistry 2. პროექტი MARE/2012/10LOT4-S12.656742) EU, 7th FP. 01.03.2014-15.08.2016. Scientist.
9. FP7 - Up-grade Black Sea Scientific Network. CORDIS FP7-Infrastructures-2008-1, #226592. EU, 7th FP. 2009-2011. Scientist.
10. 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 Manager.



11. 4.12.02. Georgia's Palaeography in a Quarter. Georgian National Academy of Sciences. 2002-2003. Participant.
12. 4.11.00. Man and Environment in Anthropogenic". 1997-2000. Georgian National Academy of Sciences. Participant.

### **Additional information**

#### **Other Employment History**

1991 –2013 – Scientific Research Firm GAMMA Major Specialist;

2014 - up to date - Scientific Research Firm GAMMA Major Specialist, Quality Manager of Testing Laboratory;

2015 – up to date – Laboratory Technical Assessor.

#### **Teaching Activities**

2009-2019 - St. Andrew the First-Called Georgian University of the Patriarchate of Georgia, School of Informatics, Mathematics and Natural Sciences.

1) Bachelor's educational program "Applied Ecology", courses "Basic hydrology and hydrochemistry"; "Black sea ecology". Associate professor;

2) Doctoral educational program "Ecology and environment protection", course "Black sea ecology". Invited lecturer;

3) Doctoral educational program "Ecology and environment protection", member of section of dissertation council "Ecology and environmental protection".

2012 – up to date - Ilia State University, faculty of Natural Sciences and Engineering.

1) 2012-Up to date - Bachelor's educational program, course "Basics Geoecology".

2) 2019 - Up to date. Master's educational program, course "Applied Ecology".

#### **Academic Advisor of Dissertations**

1. N. Gelashvili. (PhD Degree). Dissertation "Study of the quality of oil hydrocarbon pollution in Georgian Sector of the Black Sea". 17.12.2004;
2. N. Gaphrindashvili. (PhD Degree). "Measurement of geomorphological and geodynamic changes and risks of the Black Sea coastline for marine infrastructure development". 15.04.2019.

#### **Certificates and training courses**

1. EMBLAS-Plus Marine litter and micro-litter workshop, which will be held in Constanta, Romania on 26-27 July 2019, and further on-board of Romanian Research Vessel "Mare Nigrum", operated by Romanian research institution GeoEcoMar heading from Constanta to Odessa on 28-29 July 2019.
2. "The Unified National Body of Accreditation – Accreditation Center". Certificate, Training Course for Laboratory Assessors according to ISO/IEC 17025". 28 February – 1 March 2019. Tbilisi, Georgia.
3. Certificate. Confirmation the qualification of laboratory technical assessor - The Unified National Body of Accreditation – Accreditation Center.30.04.2019. Tbilisi, Georgia.

4. Certificate ISO EEC 17025:2017/2018 Standard Requirements for Testing and Calibration Laboratories. The Unified National Body of Accreditation – Accreditation Center. 11-12 October, 2018, Tbilisi, Georgia.
5. 2nd International Conference “Health and Ecology”. Tbilisi Medical University. 3 – 5/09/2010. Batumi, Georgia.
6. Certificate of Completion “Environmental Health”, provided by Division of environmental Health Sciences, University of Minnesota. Tbilisi, Georgia. 2-3 September, 2010.
7. Data Quality Control. Physical Oceanography Datasets. Sevastopol, UA, 28 June – 1 July 2010. Project Black Sea Scientific Network (BS SCENE). 28 June – 01 July 2010. Sevastopol, Ukraine.
8. Certificate of Attendance. Assessment of traceability of measurements, internal quality control, proficiency testing and measurements uncertainty (ISO/IEC 17025). LATAK, BAM, DAKKS. 26 – 28 March, 2012, Tbilisi, Georgia.
9. Certificate of Attendance. Training Courses on the used Calibration Procedures and Uncertainty Calculations in the Accreditation Procedures. LATAK, BAM, DAKKS. 12-14/ September 2012. Tbilisi, Georgia.
10. Certificate of Attendance. Benefits and Importance in PTs and Accreditation Requirements. LATAK, BAM, DAKKS. 1-2 November, 2012, Tbilisi, Georgia.
11. Certificate of Participation. Workshop on Accreditation. ANSI-ACCLASS-ASQ. 12/02/2013. Tbilisi, Georgia.
12. Certificate of Attendance. Validation of test methods. LATAK, BAM, DAKKS. 30 April – 1 May, 2013, Tbilisi, Georgia.
13. Certificate. Training Course on Marine Chemistry (Collection of environmental samples, Modern methods of determination of hydrochemical parameters, POPs, Requirements of ISO 17025 and Laboratory Quality Control. EMBLAS Project, 16-18 September 2014. Batumi, Georgia.
14. Certificate. PETROMASS 2014. X International Mass Spectrometry Conference on Petrochemistry and Environmental. Certificate. 1 – 4 September, 2014, Tbilisi, Georgia
15. “The Unified National Body of Accreditation – Accreditation Center”. Certificate, Training Course “Basic Training Course for GAC New Assessors”. 23-24 September 2014. Tbilisi, Georgia.
16. “The Unified National Body of Accreditation – Accreditation Center”. Certificate, Training Course for Laboratory Assessors according to ISO/IEC 17025:2010“. 7-8 October 2014. Tbilisi, Georgia.
17. Certificate. Training Course on Marine Litter in the Black sea. Provided by BSC/EMBLAS II Project. 13 – 14 April, 2016, Istanbul, Turkey.
18. Certificate. Attended The International Scientific Practical Conference of Mineralogical Society of Georgia. “Power of Geologic Branch is the Precondition for the Economic Regeneration”. 19-20 May, 2016, Tbilisi, Georgia.
19. Certificate of Attendance. Basics of Quality Assurance (QA). TrainMiC. European Program for Life-Long Learning Metrological Requirements ISO/IEC 17025 for Chemical and Bio-analytical measurements. 25 March, 2017, Tbilisi, Georgia.
20. International Symposium “Protection of the Black Sea Ecosystem and Sustainable Management of Maritime Activities” PROMARE 2017. 7 – 9 September, 2017, Constanta, Romania.
21. Certificate of Participation for attending the online training on “Introduction to Statistics for Analytical Scientists” held on 30 June 2022.

