

## RESUME

1. **Family Name:** Bakradze
2. **First Name:** Elina
3. **email:** elina.bakradze@iliauni.edu.ge
4. **Education:**

<i>Educational Institution</i>	Technical University of Georgia, for the Doctoral Study – “Geo-Ecological Monitoring of the Rivers Mashavera and Poladauri Catchment Areas” (PhD)
<i>Period: from (month/year) to (month/year)</i>	<b>2009 -2014</b>
<i>Degree or Diploma</i>	Diploma – Doctoral Academic Degree Doc # 000530

<i>Educational Institution</i>	Ivane Javakhishvili state University in the specialty of chemical Expertise
<i>Period: from (month/year) to (month/year)</i>	<b>2004-2006</b>
<i>Degree or Diploma</i>	Diploma -Master’s Academic Degree in Organic chemistry and the qualification of Chemical Expertise; M # 000096

<i>Educational Institution</i>	Ivane Javakhishvili state University in the specialty of chemical Expertise
<i>Period: from (month/year) to (month/year)</i>	<b>2000-2004</b>
<i>Degree or Diploma</i>	Diploma – Bachelor’s Academic Degree in Chemistry, the qualification of Chemist-Expert; B # 11454

<i>Educational Institution</i>	INTERNATIONAL HOUSE WORLD ORGANISATION
<i>Period: from (month/year) to (month/year)</i>	<b>1999-2000</b>
<i>Degree or Diploma</i>	Diploma - TOEFEL

## 7. Membership in Professional Organizations:

- Reviewer of Environment and Ecology Research Horizon Research Publishing (HRPUB)
- Technical assessor depending on ISO 17025 of the LEPL "The Unified National Body of Accreditation - Accreditation Centre" of Georgia;
- Associate Member of European consulting network;
- Member of the European Geosciences Union.
- Reviewer of Horizon research Publishing (HRPUB) Environment and Ecology Research.
- Reviewer of a Journal Shipping and Ocean engineering  
<http://www.davidpublisher.org/index.php/Home/Journal/detail?journalid=26&jx=JSOE&cont=reviews>
- Member of the -“European Water Resources Association”.
- Member of The Water Network | by AquaSPE <https://thewaternetwork.com/member-8CG/elina-bakradze-t8Ve9QQDJOedpgpc2AZRnw/home>
- Member of the Chemical Society of Georgia;
- Member of the HKCBEEES - Hong Kong Chemical, Biological& Environmental Engineering Society (HKCBEEES);
- International Advisory Board Member of the international institute of Engineers & researchers  
<http://theiier.org/editorial.php#>
- Member of Soil Science Society of Georgia .
- 2021 year editorial board member of our journal World Bulletin of Public Health, published from Germany <https://scholarexpress.net/index.php/wbph/about/editorialTeam>

## 8. Language skills: (1 to 5 scale with 5 the highest grade)

<i>Language</i>	<i>Reading</i>	<i>Speaking</i>	<i>Writing</i>
<i>Georgian (native)</i>	5	5	5
English	5	5	5
Russian	5	5	5
Spanish	2	3	2

- 9. Computer Skills:** Operating systems Windows, MS Word *XP*, MS Excel *XP*, Access, PowerPoint, Internet and E-mail; MS Project, EMS – Electronic management system, etc;
- 10. Current position:** Ministry Of Environment Protection and Agriculture of Georgia The LEPL National Environmental Agency, Deputy Head of the Department of Environmental Pollution Monitoring.
- 11. Years of Experience at current employment:** more than 17 years (since 2005 till present)
- 12. Key Qualification:**

- 2023 January 16th, 2023 through December 31st, 2023 - professor at SDSU Georgia. This status is granted in connection with your employment with Ilia State University, SDSU's partnership with MCA-Georgia, and assignment is to provide instruction in Civil Engineering for SDSU-Georgia;
- 2021 – 2022 the Inga Tabagari Dissertation Work - "Develop an effective method of cleaning contaminated water contaminated water cleaning with blue-green spirulina platensis and biosurfactors' - the opponent. the Georgian Agrarian University;
- 2021- 2024 Scientific Head Doctoral theme - "The importance of atmospheric air qualitative parameters for determining air quality improvement policy In Tbilisi. " Tbilisi State Medical University, PhD Program" Public Health "Science - Public Health. Research field - environmental medicine;
- 2021 - Member of the Academy of Ecological Sciences of Georgia;
- Since 2020, Member of the Ecological Security Commission at the Georgian National Academy of Sciences;
- From 2019 focal point from the Ministry of Environmental Protection and Agriculture of Georgia of the United Nations Environment Programme in the project supporting the development and implementation of lead paint laws (Geneva);
- In 2018 Winner of Young Scientists' Grant Competition (Grant Agreement № YS-18-888) announced by Shota Rustaveli National Science Foundation "Integrated Survey of Kvemo Kartli EcoSystems pollution with heavy metals and Impact on the Food Safety.
- In 2018 was awarded as the best young scientist in the field of Georgian science by the "LEPL- Georgia Rustaveli National Science Foundation "
- From August 2017 An expert appraiser of grant competition projects at shota rustaveli national science foundation;
- From November 2017 expert to Art 22 - Minamata Convention, Secretariat of Minamata Convention;
- From November 2017 Accreditation Expert of Higher Education Program of the National Center for Educational Quality Enhancement;
- Co-author of the report Pilot Testing in the Rioni River Basin Regarding Impacts from Hydropower including the Methodology, Risk Assessment Results and a Check-List to Review EIA Documents Project: EU Approximation in the Field of Environmental Impact Assessment for Cumulative Impacts of Hydropower Projects in Georgia A Project in Support of the Ministry of Environment and Natural Resources Protection of Georgia December 2016.
- Georgian Technical University of Chemical Technology and Metallurgy Dissertation Board invited member;
- Co-author of the report "Rioni River Environmental Action program" 2015 May in the frames of the project REPAIR;
- December 17, 2015 won grant competition announced by the Shota Rustaveli National Science Foundation for young scientists (Grant Agreement N YS15\_1.2.1.5\_57) " Study of the pollution level of Alazani valley artificial reservoirs and their adjacent area" – project manager.
- Country research assistance -REC Caucasus, members of a team contracted by Florida International University as part of the USAID-funded Global Water for Sustainability Program (GLOWS). GLOWS is working here in Georgia on water resources management (WRM) and water supply, sanitation, and hygiene (WASH) programming in the Alazani basin Kakheti region 2014.
- Water quality expert - in the project of Regional Cooperation for Black Sea River Basins Environment Protection from Agricultural Polluters, REPAIR- 2013.

- Co-author of the WWF Freshwater Strategy for the South Caucasus Region addressing Armenia, Azerbaijan and Georgia 2013;
- Coordinates the activities of the laboratory;
- Carries out methodical management of the chemical analysis;
- Provides international methods for chemical analysis - assimilation, translation;
- Experience in the surface, precipitation, atmospheric air and other matrices analyses by Chromatography, spectrometer and other equipment's, determination, subsequent data Processing and reporting;
- Ensures quality control Depending the ISO 17025 in the laboratory of the Department;
- Experience in river monitoring: Analyses sampling, data management and reporting;
- Academic Education in field of Chemistry (master's academic Degree, Doctor's academic degree (PhD));
- Experienced in Participation in international projects supported by International Organisations (USAID, UNDP, EU, NATO etc.);
- Participation in preparation of normative acts and technical regulations in the environmental sphere;
- Experience in Participation in international projects as an National Expert;
- Experienced in the field of Environment, Water, Soil, atmospheric air, waste, and atmospheric sedimentation pollution, also plants essence of an anthropogenous origin, research of their processes of migration and absorption;
- Has Experience in Assessment of the Black Sea Pollution, Assessment of environmental pollution by the statistical analysis;
- Has developed and tested new advanced methodologies for determination of concentration of hazardous substances in water depending on International standards;
- Has prepared the QC manual Depending on the ISO 17025 and Standard operation procedures for the laboratory purposes, Quality plan;
- She is familiar with modern techniques for sampling and analyses of organic contaminants including POPs in water, sediments, particles etc; clean-up methods and high resolution determination and risk assessment. She spent his last 12 years with a group of environmental analytical chemists.
- Is invited at Shota Rustaveli National Science Foundation as Expert project Evaluator;
- Has received Deferent Kind of certificates of performance of laboratory interlaboratory comparisons tests on: "Trace Inorganic and Organic Analysis"
- Regional Consultant in Development of fresh water strategy in the Caucasus Ecoregion (Georgia, Armenia, Azerbaijan).
- Invited in LEPL "The Unified National Body of Accreditation - Accreditation Centre" of Georgia as Technical assessor depending on ISO 17025 (General requirements for the competence of testing and calibration laboratories);
- 2021 Year Doctoral Program "Public Health" Individual Doctoral Research Program Community Name: The importance of atmospheric air qualitative parameters for determining air quality improvement policy In Tbilisi. Topic Scientific Director / PC: Associated Department of TSMU Hygiene and Medical Ecology. Professor Nino Kiladze, Deputy Head of Environmental Pollution Monitoring Monitoring Department, Academic Doctor of Chemistry **Elina Bakradze**, Assistant Professor of Employeeology and Environmental Departments of Emory University, Epidemiology and Environmental Departments.

- Has experience working as a lector (Invited Professor) in field of chemistry.

### 13. Experience:

<i>Period: from (month/year) to (month/year)</i>	<b>From January 16<sup>th</sup> 2023 year</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	San Diego State University SDSU Georgia
<i>Title:</i>	Professor, This status is granted in connection with your employment with Ilia State University

<i>Period: from (month/year) to (month/year)</i>	<b>From 07.04.2020 at present</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	Deputy Head of Environmental Pollution Monitoring Department, LEPL National Environmental Agency
<i>Title:</i>	Deputy Head of Environmental Pollution Monitoring Department

<i>Period: from (month/year) to (month/year)</i>	<b>From 2022 December till January</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	LEPL L. Sakvarelidze The National Center for Disease Control and Public Health
<i>Title:</i>	Scientific Consultant of chemical risk factor research laboratory

<i>Period: from (month/year) to (month/year)</i>	<b>From 2022 December till January 2023</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	SSM State Military Scientific-Technical Center "Delta Grigol Tsulukidze Mountain Institute
<i>Title:</i>	Head of water group chief scientist

<i>Period: from (month/year) to (month/year)</i>	<b>02.2020 - - 07.04.2020</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	Acting Deputy Head of Environmental Pollution Monitoring Department, LEPL National Environmental Agency
<i>Title:</i>	Deputy Head of Environmental Pollution Monitoring Department

<i>Period: from (month/year) to (month/year)</i>	<b>From 25 December of 2018 year -2022</b>
--	--

<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	Georgian Technical University. Department of Applied Geology. Republican Center for Research, Diagnostics and Processing of Geology and Mineral Substances (Accreditation No. GAC-TL-0198)
<i>Title:</i>	Senior Researcher

<i>Period: from (month/year) to (month/year)</i>	<b>From 2011 – to 20 .07.2021</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	National Environmental Agency, of Ministry Of Environment Protection and Agriculture of Georgia
<i>Title:</i>	Head of the Atmospheric Air water and soil analyses laboratory (Division) of the Department of Environmental pollution Monitoring.

<i>Period: from (month/year) to (month/year)</i>	<b>2008- 2011</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	National Environmental Agency, of Ministry Of Environment Protection and Natural Resources of Georgia
<i>Title:</i>	Chief Chemist of the Department of Environmental pollution Monitoring.

<i>Period: from (month/year) to (month/year)</i>	<b>2007 - 2008</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	The Centre of the Monitoring and Prognostication of Ministry Of Environment Protection and Natural Resources of Georgia
<i>Title:</i>	Main Specialist of the Department of Environmental pollution Monitoring

<i>Period: from (month/year) to (month/year)</i>	<b>2006</b>
<i>Location:</i>	Tbilisi, Georgia
<i>Name of Organization:</i>	the Centre of the Monitoring and Prognostication of Ministry Of Environment Protection and Natural Resources of Georgia
<i>Title:</i>	Senior Specialist of the Department of Environmental pollution Monitoring

<i>Period: from (month/year) to (month/year)</i>	<b>2005 -2006</b>
<i>Location:</i>	Tbilisi, Georgia

<i>Name of Organization:</i>	The Centre of the Monitoring and Prognostication of Ministry Of Environment Protection and Natural Resources of Georgia
<i>Title:</i>	Probationer of the Department of Environmental pollution Monitoring

#### **14. Participation in International Projects:**

2022-2023 Standard Agreement between the UNDP and the Ministry of Environment Protection and Agriculture of Georgia LEPL National Environmental Agency -Improvement of Air Quality Policy Opportunities by Implementation of Complex Air Pollution Monitoring Tools ". The United Nations Development Program provided by the Project Reform Fund - Phase IV (N 000127317)- expert;

2021 Shota Rustaveli National Science Foundation publishing Grants winner (the project SP-21-417) " the vineyard and the environment " (T. Urushadze; G. Tsereteli; E. Bakradze; G.aleksidze. A.Tkheldidze );

2021, 15 November – 2022, February 15 - Supporting CENN, Project "Promotion of Civil Society Involvement in Climate Civil Society Involvement and Implementation Partners in KRDF, ACU, YPU and RLSADA Develop climate change scenarios for the river Kvirila - an expert;

**2021** "Strengthening data processing and modeling capabilities for improving air quality monitoring in the country - Phase II"; the Grant Agreement between the United Nations Development Program (UNDP) and the National Environmental Agency of the National Agency of Environmental Agency;

**2019 - 2021** Development of diagnostic and remedial biotechnologies to clean up arsenic-contaminated environment in Georgia Grant Competition announced by Shota Rustaveli National Science Foundation CARYS-19-179 – Chemist expert.

**2019-2020** “Support in mitigation of Arsenic content in natural waters, soils and food products and possibilities of As treatment in drinking waters in Georgia” SlovakAid, Based on Contract No. SAMRS/2019/VP/1/6 of the Slovak Agency for International Development Cooperation and Water Research Institute;

**2020- April - September**, Project Title: Improving Black Sea Environment Monitoring - Selected Measures (EMBLAS-Plus) Donor organization: European Union (EU), United Nations Development Program (UNDP) – expert chemist.

**2020-2021** TIMMOD -Promoting Technology Innovation in Environmental Monitoring and Modelling for Assessment of Fish Stock and Non-fish Resources (TIMMOD) a EU funded project financed within the Black Sea Basin Programme 2014-2020- Key expert;

**2019 – 2021** Project Title: “European Maritime Observation and Data Network” (EMODNET 4, Lot 4 - Chemistry) Donor organization: European Union (EU) – expert;

**2019** National Consultant in The Grant Agreement between UNDP and LEPL National Environmental Agency was concluded for implementation of the project “Enhancing Air Quality Management Capacities in Georgia” – National Expert.

**2019 – 2020** National expert in water resources management UNECE Improved River basin management (RBM) and Water Resources Management by taking into the consideration the outcomes of the developed Strategic Environmental Assessment (SEA) for the Alazani-Iori River Basin and improved national Capacities on Implementation of a SEA (MOU for grant No ECE /GC.2019.07.007)

**2018-2020** Georgian Senior Physio-chemical Monitoring and Assessment Expert in the project UNDP-GEF Kura II Project;

**2018-2020** Winner of Young Scientists' Grant Competition (Grant Agreement № YS-18-888) announced by Shota Rustaveli National Science Foundation "Integrated Survey of Kvemo Kartli Ecosystems pollution with heavy metals and Impact on the Food Safety” Scientific head.

**2018** Environmental Chemist in the Project: Harmonization of information management for improved knowledge and monitoring of the global environment in Georgia Development of National Indicators of Land Degradation Assessment of Selected Areas and Interpretation of Data

**2018** expert in the Project: „Support of the state institutions and capacity building in the implementation the Urban Waste Water Treatment Directive (91/271/EEC) in Georgia“, project code/project code: SAMRS/2018/VP/1/7;

**2017 – 2018** Project Manager - Contact person of the project “Harmonization of Analytical Methods Used in the National Environmental Agency of Georgia with the Requirements of the Water Framework Directive 2013/39/EU”

**2017** – Working group member in the project “Develop Water Framework Directive (WFD) Implementation Guidance Documents for Georgia” USAID Governing for growth in Georgia;

**2017** - Environmental Expert/Chemist within UNDP Project “Harmonization of information management for improved knowledge and monitoring of the global environment in Georgia”

**2016** - Project: EU Approximation in the Field of Environmental Impact Assessment for Cumulative Impacts of Hydropower Projects in Georgia A Project in Support of the Ministry of Environment and Natural Resources Protection of Georgia December 2016 - Co-author of the report Pilot Testing in the Rioni River Basin Regarding Impacts from Hydropower including the Methodology, Risk Assessment Results and a Check-List to Review EIA Documents;

**2013- 2016** Water Quality Expert - in The project REPAIR Regional Cooperation for Black Sea River Basins Environment Protection from Agricultural Polluters).



**2014-2016** - expert – (data gathering, processing, quality control / quality assurance) of the project "Creating a database" program, the EU representative is the European Commission (Directorate-General for maritime affairs and fisheries).

**2016** national expert/consultant in water quality of OSCE Secretariat - The OSCE and the UNECE under the auspices of the Environment and Security (ENVSEC) Initiatives project "*Implementation of the UNECE Water Convention: Finalisation of an agreement on the management of transboundary watercourses shared by Georgia and Azerbaijan*". The project aims to assist in the finalisation of the draft bilateral water co-operation agreement for the Kura River basin between Azerbaijan and Georgia with a view to facilitating its signature.

**2016 December** Co-Author- of the report "Pilot Testing in the Rioni River Basin Regarding Impacts from Hydropower including the Methodology, Risk Assessment Results and a Check--- List to Review EIA Documents Project: EU Approximation in the Field of Environmental Impact Assessment For Cumulative Impacts of Hydropower Projects in Georgia A Project in Support of the Ministry of Environment and Natural Resources Protection of Georgia;

**2016- 2018** years - Scientific head of the Grant (Grant Agreement of 17 December 2015 N YS15\_1.2.1.5\_57) for Young Scientists "Study of the pollution level of Alazani valley artificial reservoirs and their adjacent area" Grant was announced by Shota Rustaveli National Science Foundation.

**2015- 2017** expert on Environmental Impact Assessment and Laboratory Researches of the project "Review and update of the national implementation plan for the Stockholm Convention on Persistent Organic Pollutants (POPs) in Georgia" Funded by the Global Environment Facility (GEF) and United Nations Environment Programme (UNEP).

**2015** expert on water column chemistry QA/QC direction - EMODnet Chemistry;

**2015** water expert - The UNECE Strategic Environmental Assessment (SEA) Pilot Project on National Waste Management Strategy and Action Plan in Georgia.

**2014** - Creation of Measures to Mitigate the Alazani Valley Saline Soil Degradation on the Background of Modern Climate Change - Shota Rustaveli National Science Foundation N AR 136/9-110/11.

**2014** -country research assistant USAID-funded Global Water for Sustainability Program (GLOWS) - Water Resources Management Sustainability Index Tool (WRM SIT) for Alazani river basin – Kakheti region."

**2014-2016** expert -"Strengthening of the water protection through the controlling system of the effluent quality and monitoring of the water bodies at risk in Georgia" Grant Co-operation agreement; project SAMRS/2014/VP/01/06.

ENPI Project: Trans-Boundary River Management for the Kura River basin Phase III – Armenia, Georgia, Azerbaijan (**2012-2013**)

(INRMW) Integrated Natural Resources Management in Watersheds of Georgia **2011- 2014**. Meeting - Seminar on "Surface Water Researches in laboratory conditions "for the eco camp Eco - Club Alliance, in the Mtirala National Park Areas.

Environmental Protection of International River Basins **2013-2014**;

Regional Cooperation for Black Sea River Basins Environment Protection from Agricultural Polluters, REPAIR 2013-2014;

PIMS 2271 Reducing Transboundary Degradation in the Kura Aras river basin, Demonstration Project **2012-2013** - Expert on Hydrochemistry.

Reducing Transboundary Degradation in the Kura Aras river basin **2013**;

Project # 00076584: Title: Disposal of POPs Pesticides and Initial Steps for Containment of Dumped POPs Pesticides in Georgia **2012** - Key expert; Chemist/Chemical expert;

Georgian waters – Capacity building on the water monitoring and management in Georgia, 2010-**2013** (Georgia Waters)

WWF Caucasus Programme Project for development Fresh water strategy in the Caucasus Ecoregion (Georgia, Armenia, Azerbaijan) **2012** – Regional Expert.

Integrated Natural resources Management in watersheds (INRMW) of Georgia Program –provision of Environmental Quality screening Consulting services March 10.2012- September **30.2012**

Georgian- Railway Investigation of Soil Pollution – COWI (A/S), Denmark, **2011**.

KuraAras FSP/ 70228 UNDP- GEF Project, “Reducing Transboundary Degradation of the Kura Aras River Basin” – water quality expert at national level.

Slovak Republic project: “Support of the Improvement of Quality Management System of Water Quality Monitoring and Information System as tool for the Decision Making Process in Water Policy in Georgia”, Project Manager, 2009-2010;

”Support of the Improvement of Quality Management System of Water Quality Monitoring and Information System as tool for the Decision Making Process in Water Policy in Georgia”**2008**

TACIS – EU Project: Trans-Boundary River Management Phase II for the Kura River basin – Armenia, Georgia, Azerbaijan (**2008**);

Support to the trans-boundary management of the Kura river basin Phase I **2004-2006**

NILU Norsk institute: Convention on Long -range Trans-boundary Air Pollution;

”THE BLACK SEA ENVIRONMENT RECOVERY PROJECT”

’DEMMS” Georgian Finnish Project Development of Environment monitoring and Management Systems in Georgia;

NATO science program – “South Caucasus River monitoring project #977991SFP”

## 15. Publications and Conferences:

Has published more than -80 scientific articles and papers:  
(basics of them are)

The current state of arsenic deposit in the Lukhuni Gorge in Accordance with the 2021 Data S. Khmiadashvili<sup>1\*</sup>, N. Poporadze<sup>2</sup>, E. Bakradze<sup>1</sup> 1 LEPL National Environmental Agency of the Ministry of Environment Protection and Agriculture Tbilisi, Georgia 2Georgian Technical University, Tbilisi, Georgia J. Geo. Chem. Soc., **2022**, Vol. 2, Issue: 1, ID: 34 2022 year <http://chemistry.ge/publication/jgcs/view.php?id=34>.

International Scientific Conference „Modern Problems of Ecology“ Batumi, Georgia, October 16-17, **2022** ISSN 1512-1976- International Scientific Conference „Modern Problems of Ecology“ Batumi, Georgia, October 16-17, 2022 SOIL POLLUTION IN THE URBAN REGION OF GEORGIA \*L. Shavliashvili, \*\*E. Bakradze, \*\*G. Kordzakhia, \*\*G. Kuchava

International Scientific Conference „Modern Problems of Ecology“ Batumi, Georgia, October 16-17, 2022 ISSN 1512-1976- ECOBIOCHEMICAL STATUS OF THE MAIN RIVERS OF EASTERN GEORGIA AND THEIR CLASSIFICATION ACCORDING TO HYDROCHEMICAL INDICATORS Buachidze N. S. \*, Shavliashvili L. U\*, Bakradze E. M. \*\*, Kuchava G. P. \*\*, Kordzakhia G. i.\*

Arsenic Pollution and Human Health Risk Assessment in the Region of Racha-Lechkhumi and Kvemo Svaneti of Georgia" Submission ID: AECT-D-22-00294 Full author list: Vakhtang Tebidze; Elene Zurabishvili; Giorgi Tatanashvili; Tamar Varazi; Evgeni Bunin; Elina Bakradze – printing 2022 Springer Journals Editorial Office Archives of Environmental Contamination and Toxicology. <https://www.researchsquare.com/article/rs-1744446/v1>

**2022**year The current state of arsenic deposit in the Lukhuni Gorge in Accordance with the 2021 Data S. Khmiadashvili<sup>1\*</sup>, N. Poporadze<sup>2</sup>, E. Bakradze<sup>1</sup> <https://chemistry.ge/publication/jgcs/view.php?id=34>;

International Conference on Research and Assessment for Sustainable Use of Black Sea Shellfish Resources, Varna, **October 2021** LAND-BASED SOURCES OF POLLUTION ALONG THE BLACK SEA COAST OF GEORGIA AND MEASURES FOR WATER QUALITY IMPROVEMENT ELINA BAKRADZE<sup>1</sup>, MARINE ARABIDZE<sup>1</sup>, IRINE BARAMIDZE<sup>1</sup>

Assessment of the quality of pollution in Kvemo Kartli region (Georgia) soils 1 Lali U. Shavliashvili 2 Elina M. Bakradze 2 Gulchina P. Kuchava, 1 Ekaterina Sh. Shubladze pg- 83-91, International scientific and practical conference CUTTING EDGE-SCIENCE 2022 Shawnee, USA Conference Proceedings Primedia E-launch Shawnee, USA ISBN 978-1-64945-234-4 DOI: 10.5281/zenodo.6417319, **2022**;

Surface water and soil sampling for arsenic content determination Sophio Khmiadashvili 1, Nodar Poporadze2, Marine Arabidze1, Elina Bakradze1, Gulchina Kuchava1 Gela Sandodze1 Lia Aptsiauril pg 51-52. Scientific Workshop in Connection with Eurachem General Assembly 2022 QUALITY ASSURANCE CHALLENGES OF MEASUREMENTS FROM FIELD TO BORATORY WITH A FOCUS ON ISO/IEC 17025:2017 REQUIREMENTS Online Workshop **16-18 May 2022** Book of Abstracts

Arsenic contamination in Racha and Lower Svaneti district of Georgia, consequences and remediation strategies E. Bakradzea\*, T. Butkhuzib , S. Khmiadashvilic , E. Buninb , K. Didebulidzeb , A. Gujabidzeb N. Dumbadzeb , T. Glurjidzeb , A. Giorgadzeb Annals of Agrarian Science 19 (2021) 191-198 Journal homepage: <http://journals.org.ge/index.php>;

Book "Vineyard and Environment" T. Urushadze; G. Tsereteli; G. Alexidze A. Tkhelidze E. Bakradze published in Tbilisi **2021** Publishing House of Free and Agrarian Universities;

Pollution of Kvemo Kartli region (Georgia) soils by heavy metals -/L. Shavliashvili, E. Bakradze, E. Elizbarashvili, E. Shubladze, G. Kuchava/ -, „European Geographical studies”, international scientific Journal, E-ISSN 2413-7197, DOI: 10.13187/egs.2021.1.55 2021,8(1), pp.55-62. [https://egs.cherkasgu.press/journals\\_n/1643990340.pdf](https://egs.cherkasgu.press/journals_n/1643990340.pdf);

Determining the classification of some of Kvemo Kartli river quality according to hydrochemical indicators N.Buachidze, L.Shavliashvili, E.Bakradze, G.Kuchava In an Online International Conference on "Developments in Applied Sciences and Humanities" Organized by Conferencious-an international Conference platform, hosted from Timisoara, Romania, On October 7th and 8th , **2021**;

Arsenic contamination in Racha and Lower Svaneti district of Georgia, consequences and remediation strategies E. Bakradzea\*, T. Butkhuzib, S. Khmiadashvilic, E. Buninb, K. Didebulidzeb, A. Gujabidzeb N. Dumbadzeb, N. lurjidzeb, A. Giorgadzeb 2021 Annals of Agrarian Science printing;

Microorganisms and Plants as Tools for Phytoremediation of Soil Polluted with Different Forms of Arsenic N. Asatiana, E. Bakradzeb, T. Butkhuzic, K. Didebulidzec, A. Gujabidzec, T. Kartvelishvilia, G. Khatisashvilic, S. Khmiadashvilid, M. Kurashvilic\*, M. Pruidzec, D. Razmadzec, N. Sapojnikovaa, T. Varazic 2021 Annals of Agrarian Science printing;

2021 August 21-22 international conference “Humino congress-2021” Organized by Conferencious an international conference platform hosted from Paris France “ Impact of arsenic ex- mining waste on the surrounding soil degradation processes in Racha ” E.Bakradze1, L.Shavliashvili2, G. Kuchva1 received certificate and the paper was published .

2021 year Conference Georgian Ecological Sciences Academy of Georgia "Land Resource Degradation in Georgia" Tbilisi Georgia 5-6 June;

2021 year Conference- Collection of articles on the materials of Scientific-Practical Conference LXXIV Herzen readings HEAVY METAL POLLUTION OF THE RIVER KAZRETULA BY THE MADNEULI ENTERPRISE AND RESTORATION OF ITS BIODIVERSIT Sankt Petersburg, Russia 21-23 April;

2021 year Conference -7th Global Congress on Contemporary Sciences Alternative innovative technology to Reduce Fuel emissions in ambient air New york, USA .June, 25th;

2021 year Conference- International Conference On Development of Applied Science and Humanities  
DETERMINATION THE WATER QUALITY CLASSIFICATION OF  
THE RIVER KHRAMI AND ITS TRIBUTARIES Timisoara, Romania October 26th -27th;

Open access peer-reviewed chapter - ONLINE FIRST Remedial Approaches against Arsenic Pollution  
By Gia Khatishashvili, Tamar Varazi, Maritsa Kurashvili, Marina Pruidze, Evgeni Bunin, Kakha  
Didebulidze, Tinatin Butkhuzi, Elina Bakradze, Nino Asatiani, Tamar Kartvelishvili and Nelly  
Sapojnikova Submitted: April 6th 2021Reviewed: June 8th 2021Published: July 2nd 2021DOI:  
10.5772/intechopen.98779; <https://www.intechopen.com/online-first/77387>;

IMPACT OF ARSENIC EX-MINING WASTE ON THE SURROUNDING SOIL DEGRADATION  
PROCESSES IN RACHA - / E.Bakradze, L.Shavliashvili, G.Kuchava/ - HUMINO CONGRESS-Online  
International Conference Hosted from Paris, France, August 21st -22nd, pp.1-6, 2021.  
<https://conferencious.com>

DETERMINATION THE WATER QUALITY CLASSIFICATION OF THE RIVER KHRAMI AND ITS  
TRIBUTARIES - /N.Buachidze, L.Shavliashvili, E.Bakradze, G.Kuchava/ - International Conference  
On Development of Applied Science and Humanities - Timisoara, Romania, October 26th -27th, pp.8-  
15, 2021. <https://conferencious.com>

HEAVY METAL POLLUTION OF THE RIVER KAZRETULA BY THE MADNEULI ENTERPRISE  
AND RESTORATION OF ITS BIODIVERSITY - / E.Bakradze L.Shavliashvili, G.Kuchava  
**N.Buachidze**, E.Shubladze/ - Collection of articles on the materials of Scientific-Practical Conference  
LXXIV Herzen readings 21-23 April, pp.12-18, Sankt Petersburg, 2021. ISBN 978-5-8064-3043-  
5 (общий)

Modern condition of contamination by Madneuli enterprise - echo.Bakiradze, L.Savliashvili G. - J.  
Georgian Chemical Society, Vol. 1, pp. 59-64, 2021. ISSN 1512-0686  
[www.chemistry.ge/publication/JGCS](http://www.chemistry.ge/publication/JGCS)

Alternative innovative technology to Reduce Fuel emissions in ambient air - /E.Bakradze,  
N.Buachidze L.Shavliashvili, G.Kuchava/ - Proceedings of 7<sup>th</sup> Global Congress on Contemporary  
Sciences. June, 25<sup>th</sup>, New york, USA, pp.77-82, 2021. <https://econferenceglobe.com>

Research of Soil Resources Degradation Processes in Georgia - /L.Shavliashvili, G.Kordzakhia,  
E.Bakradze, G.Kuchava/ - printing

"The modern state of pollution of the river Kazretula by Madneuli enterprise " E.Bakradze1\*, L.  
Shavliashvili2, G. Kuchava 1 J. Geo. Chem. Soc., 2021, Vol. 1, Issue: 1, ID: 12 2021 year  
<http://chemistry.ge/publication/jgcs/index.php>;

The modern state of pollution by Madneuli enterprise Elina Bakradze, Lali Shavliashva, Gulchina  
Kuchava, "Chemical Society of Georgia" <http://chemistry.ge/publication/jgcs/allissues.php> seals in  
2021;

"Study of heavy metal pollution of natural waters of Bolnisi Municipality and protection of their biodiversity" - E. Bakradze, L. Shavliashvili, G. Kuchava - International online conference of the Academy of Agricultural Sciences - "Climate Change and Agribusiness of Georgia", a collection of scientific conference, 18-24 p., 2020; -24 p., 2020;

International Online Conference of the Georgian Academy of Agricultural Sciences - "Climate Change and Georgia's Agrobiodiversity" 2020;

"Impact of Heavy metals in soils on health of children's and adolescents" Book of Lamberts publishing company, Karaman I Phagava, TF. Urushadze, E.M.Bakradze 2020 year 77 p. <https://www.morebooks.de/>

"Ecological Situation in the World and in Georgia During and After the Pandemic" E. Bakradze, L. Shavliashvili, G. Kuchava, M. Arabidze, N. Buachidze, G. Kordzakhia Ivane Javakhishvili Tbilisi State University International Online Conference "Compounds and Materials with Specific Properties" July 10-11, 2020 Tbilisi, Georgia BOOK OF ABSTRACTS pg 21 from 82 <https://oc-2020.tsu.ge/web/3;>

On July 14, 2020, at the International Conference "Compounds and Materials with Specific Properties", Elina Bakradze, Deputy Head of the Department of the National Environment Agency, was awarded a diploma for the best presentation;

Study of heavy metal pollution of natural waters of Bolnisi Municipality and conservation of their biodiversity Georgian Academy of Agricultural Sciences, Scientific Conference "Climate Change and Agrobiodiversity of Georgia" pg.18-24 25 **September 2020** Collection of works Tbilisi, Georgia [http://www.gaas.dsl.ge/;](http://www.gaas.dsl.ge/)

Eco-chemical study of natural water and soil pollutants in the vicinity of the Madneuli plant E.Bakradze, L.Shavliashvili, G.Kuchava Actual problems of ecology and soil science in the XXI century" VI Republican Scientific Conference Pages: 116-120 **16-17 June 2020** Conference Proceedings Baku, Azerbaijan;

Pollution of environment by heavy metals by Madneuli Plant Journal of Advanced Research in Dynamical and Control Systems E.Bakradze, L.Shavliashvili, G.Kuchava T.Mchedluri Vol. 12, Pages: 2586-2596 26 **June 2020** DOI: 10.5373/JARDCS/V12SP7/20202393 <https://www.jardcs.org/>

Influence of heavy metal content on the prevalence of tumors in the population / Paghava K., Urushadze T., Giorgobiani G., Bakradze E., Kachiashvili I., Gagoshidze M. // International Scientific-Technical Conference "Environment and Sustainable Development" dedicated to Professor Victor Eristavi, Thesis, Tbilisi, 2019. p. 94-95. The report was read on November 11, 2019.

Characterization of ecological status of rivers, artesian waters and soils adjacent to Bolnisi Madneuli enterprise - / E. Bakradze, L. Shavliashvili, G. Kuchava / - International Scientific Conference "Actual Problems of Landscape; Sciences: environment, society, politics; September 9-13, Tbilisi, Georgia, 2019;

Variation of heavy metal concentrations in Eastern Georgia's surface waters and soils due to anthropogenic impact - / L. Shavliashvili, L. Intskirveli, E. Bakradze \*, G. Kuchava \*, N. Buachidze, S. Medivani - - International Scientific Conference on Natural Disasters in Georgia: Monitoring, Prevention, Mitigation of Results ", Tbilisi, December 12-14, 2019. International Scientific Conference

"Natural Disasters in Georgia: Monitoring, Prevention, Mitigation", Tbilisi, December 12-14, 2019 - <http://dspace.gela.org.ge/handle/123456789/8613?offset=20>.

Reviewer – “The Red Book of Soils of Georgia” Free and Agricultural Universities Press *Tbilisi*, 2018

Study of the pollution of rivers and soils in the adjacent areas of Madneuli in Bolnisi municipality - /E.Bakradze, L.Shavliashvili, G.Kuchava/ - International Scientific Conference “Actual Problems of Landscape; Sciences: environment, society, politics; 9 -13 September, Tbilisi, Georgia, 2019 <https://aplr.tsu.ge/index.html>.

Phiziko-chemical, hydrochemical and microbiological characteristics of the existing rivers in the vicinity of Bolnisi Madneuli enterprise - /E.M. Bakradze, L.U. Shavliashvili, G.P.Kuchava/ - International scientific-practical conference LXXII Herzen readings; Geography: Development of science and education, part II, Sankt Petersburg, p. 32-37, 2019.

Co-author of Agricultural Dictionary (Volume I and II) Georgian National Academy of Sciences Georgian Agricultural University Tbilisi 2019;

"Land Reform in the Post-Soviet Space" Book of Lamberts publishing company, N.A. Chitanava, TF. Urushadze, E.M.Bakradze 2019 year 77 p. <https://www.morebooks.de/>

"Heavy metals in the soils of Georgia" Book of Lamberts publishing company , Tengiz Urushadze, Yuri Vodianski, Elina Bakradze 2018 117 Page <https://www.morebooks.de/>;

E.Bakradze, 2,G.Kuchava, 3,M.Arabidze, 4,I.khomeriki, 5,Q.Kvatashidze Results of 2017 monitoring of atmospheric air pollution in Tbilisi, Georgia International Journal of Modern Research in Engineering & Management (IJMREM) ||Volume|| 1||Issue|| 6 ||Pages|| 53-59 || June 2018|| ISSN: 2581-4540 2018year www.ijmrem.com IJMREM 1 [http://www.ijmrem.com/paper/vI\\_i6/IJMREM\\_G016053059.pdf](http://www.ijmrem.com/paper/vI_i6/IJMREM_G016053059.pdf)

Elina Bakradze , Yuri Vodyanitskii , Tengiz Urushadze , Zaur Chankseliani ,Marine Arabidze Annals of Agrarian Science “About rationing of the heavy metals in soils of Georgia” (2018) 1- 6 pg <https://www.sciencedirect.com/science/article/pii/S1512188718300162>;

“Chemical Composition of Artificial Reservoirs and Saline Soils in Kakheti Region” E Bakradze1\*, Savliashvili2 and G Kuchava1 Research & Reviews: Journal of Ecology and Environmental Sciences <http://www.rroj.com/open-access/chemical-composition-of-artificial-reservoirs-and-saline-soils-inkakheti-region-.php?aid=86430>;

The impact of saline soils on the chemical composition of artificial reservoirs - /E.Bakradze, L.Shavliashvili, G.Kuchava, M.Arabidze/ - International Society for Engineering Research and Development (ISERD), 91st International conference, Madrid, p.1-4, 2017

Some heavy metal content in Kakheti region soils and surface waters E.Bakradze 1, L.Shavliashvili 2, G.Kuchava 1;International Scientific Conference of the Faculty of Exact and Natural Sciences of Akaki

Tsereteli State University: Geographical Science in the Global Context: Achievements and Challenges 3-4 June, 2017, Kutaisi p119-126;

"Study of contamination of the transboundary river Kura in Georgia" the issue 58 of European Water journal (Special Issue II: EWRA2017 - 10th World Congress on Water Resources and Environment E. Bakradze, G. Kuchava and L. Shavliashvili pg.359 – 364 © 2017 E.W. Publications 2017;

INTERNATIONAL CONFERENCE ISERD 91ST abstract on THE IMPACT OF SALINE SOILS ON THE CHEMICAL COMPOSITION OF ARTIFICIAL RESERVOIRS E.BAKRADZE, L.SAVLIASHVILI, G.KUCHAVA, M.ARABIDZE Madrid, Spain 23-24 October 2017;

Shavliashvili, L., Bakradze, E., Arabidze, M. and Kuchava, G. 'Arsenic pollution study of the rivers and soils in some of the regions of Georgia' International Journal of Current Research Vol. 9, Issue, 02, pp.47002-47008, February, 2017; ISSN: 0975-833X; Available online at <http://www.journalcra.com>; <http://www.journalcra.com/current-issue>; <http://www.journalcra.com/sites/default/files/21090.pdf>.

International Scientific Conference of the Faculty of Exact and Natural Sciences of Akaki Tsereteli State University: Geographical Science in the Global Context: Achievements and Challenges 3-4 June, 2017, Kutaisi - Some heavy metal content in Kakheti region soils and surface waters E.Bakradze 1, L.Shavliashvili 2, G.Kuchava. presenter - E. Bakradze;

Bakradze EM, Shavliashvili L.U, Kuchava GP, Khmiadashvili S.A. **ASSESSMENT OF THE ECOLOGICAL STATE OF SOIL AND ARTIFICIAL RESERVOIRS IN THE ALAZANI VALLEY** GEORGIAN ENGINEERING NEWS, No. 1, 2017 page 115-120 International Engineering Academy Georgian Engineering Academy;

2017 National Pilot Monitoring Studies and Joint Open Sea Surveys in Georgia, Russian Federation and Ukraine, 2016 Scientific Report /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/This document has been prepared in the frame of the EU/UNDP Project: Improving Environmental Monitoring in the Black Sea – Phase II (EMBLAS-II) ENPI/2013/313-169 V.1. Metals, polyaromatic hydrocarbons, total petroleum hydrocarbons, chlorinated pesticides and PCBs in sea water and sediments pg 283;

EUROPEAN WATER RESOURCES ASSOCIATION 10th WORLD CONGRESS on Water Resources and Environment "Panta Rhei" PROCEEDINGS "Study of contamination of the transboundary river Kura in Georgia" E. Bakradze, , G. Kuchava and L. Shavliashvili Athens, 2017.

L. Shavliashvili, E. Bakradze, L.tstskirveli, T. Gigauri – Estimation of heavy metals content in soils and surface waters in the region of active impact on clouds UAK 628.515.516 The Institute of Hydrometeorology of Technical University of Georgian transaction of the institute Volume N 124 Pressing Problems in Hydrometeorology and Ecology pg 72-77, 2017.

Study of contamination of Alazani Valley surface and ground waters. /E.Bakradze, L.Shavliashvili, G.Kuchava, E.Shubladze/ - International scientific-practical conference LXIX Herzen readings Dedicated to the 115th anniversary of Stanislaw Vikentievich Kalesnik; Geography: Development of science and education, part II, p. 21-25, 2016.



Abstract -"The Surface Water Pollution Study in Kakheti Region" Bakradze E., Kuchava G., Shavliashvili L., Shubladze E./ book of abstracts IPSW **2016** p.54;

International Passive Sampling Workshop and Symposium (IPSW) – poster presentation "The Surface Water Pollution Study in Kakheti Region" Bakradze, Elina; LEPL National Environmental Agency 7-10 September **2016** Prague Czech Republic.

International Scientific Conference - Production of Environmentally friendly agro-food products for agricultural sustainable development Georgian Academy of Agricultural Sciences, International scientific conference "Modern technologies to produce ecologically pure products for sustainable development of agriculture", Tbilisi **2016**.

Production of Environmentally friendly agro-food products for agricultural sustainable development - /E.Bakradze, L.Shavliashvili, G.Kuchava, E.Shubladze/ - Georgian Academy of Agricultural Sciences, International scientific conference "Modern technologies to produce ecologically pure products for sustainable development of agriculture", Tbilisi, p.115-118, **2016**.

Co-author of the book -" Problems of Ecology", Tbilisi 2014year.

Determination of water quality of the Kura River Basin Autors: N. Buachidze, I. Intskirveli, G. Kuchava, E. Bakradze. – The Georgian Nature researcher's Union " Orqisi ". N1, 2014 year.

Determination of Agricultural crops Productivity by Squares Method – L. Shavliashvili, G. Kordzakhia, E.Elizbarashvili, G. Kuchava, E. Bakradze / Reports presented at the scientific Conference Dedicated to the 80<sup>th</sup> Anniversary of M. Nodia Institute of Geophysics. Advanced Problems in Geophysics, International Conference, Tbilisi page 125-128, 2014.

L.Shavliashvili, G.Kordzakhia, E.Elizbarashvili, G.Kuchava, E. Bakradze Determination of Agricultural crops Productivity by squares Method Institute of Geophysics "Advanced problems in Geophysics Tbilisi p.125-128 2014.

Reports presented at the International scientific conference dedicated to the anniversary of M.Nodia 80 years, Institute of Geophysics "Advanced problems in Geophysics" Tbilisi, Georgia 2014.

The results of monitoring of pollution of the river Kvirila and his vicinities with heavy metals 2010-2015 the period, Bakradze E.M., Kuchava G.P. and Arabidze M.A. **GEORGIAN ENGINEERING NEWS, №3, 2015 pages 65-69.**

Co-Author: of Study towards the Development of a WWF Freshwater Strategy for the South Caucasus Region addressing Armenia, Azerbaijan and Georgia 2013;

**GEORGIAN MAJOR TRANSBOUNDARY RIVERS ECO-BIO-CHEMICAL CONDITIONS AND THEIR CLASSIFICATION. N.BUACHIDZE, L. INTSKIRVELI, G. KUCHAVA, E. BAKRADZE, N.BEGLARASHVILI, L.GVERDTSITELI.. TRANSACTIONS OF THE INSTITUTE OF HYDROMETEOROLOGY AT THE GEORGIAN TECHNICAL UNIVERSITY vol. №119, p.238-243 2013;**

## **THE CHEMICAL COMPOSITION OF AN ARTIFICIAL RESERVOIR IN SALINE SOILS OF ALAZANI**

**VALLEY.**/Shavliashvili L.W., Kordzakhia G.I., Kuchava G.P., Buachidze N.S., Bakradze E.M., Talakvadze V.V./Transactions of the Institute of Hydrometeorology, Georgian Technical University. -2013. -V.119. -pp.253-256 **2013**;

Alazani field of artificial reservoirs chemical composition of the soils / L. Shavliashvili, G. Kordzakhia, G. Kuchava, N.Buachidze, E.Bakradze, V.Talakivadze / - Hydro-meteorology Institute of Zoology, the anniversary edition, Georgia vs. .119, p .. 285-289, **2013**;

The overall ecological status of the water quality of rivers Mashavera, Khrami and Debed / E.Bakradze, G.Kuchava, M.Arabidze, N.buachidze, I.Kordzaia, L.Papachashvili / Georgian Engineering News N3, page 38- 40, **2013**.

International Scientific Journal "ANNALS OF AGRARIAN SCIENCE" Use of Klinoptilolith in Agriculture L.Shavliashvili1, G. Kordzakhia1, N. Naskidashvili1, N. Tugushi1, G. Kuchava, E. Bakradze – page 36-28, vol. 11, No.3 -2013

Характеристики загрязнения прибрежной зоны Черного моря Грузии в 2011 году, Арабидзе М.А., Кучава Г.П., Бакрадзе Э.М., Барамидзе И.Н. Национальное Агентство по Окружающей Среде, Министерство Охраны Окружающей Среды и Природных Ресурсов Грузии - в печати 2013

Ежегодный отчет глава - ЧЕРНОЕ МОРЕ Коршенко А.Н, Кочетков В.В., Панченко А.В., Любимцев А.Л., Клименко Н.П., Шибаета С.А., Мезенцева И.В., Коновалов С.К., Кондратьев С.И., Троценко Б.Г., Щерева Г., Арабидзе М.А., Барамидзе И.Н., Кучава Г.П., Бакрадзе Э.М. - в печати 2013

Technical University of Georgia, International Scientific - Technical Conference on Current Problems of Hydrometeorology and ecology, Alazani field of artificial reservoirs chemical composition of the soils / L. Shavliashvili, G. Kordzakhia, G. Kuchava, N.Buachidze, E.Bakradze, V.Talakivadze / May 28-30, 2013, Tbilisi.

Tbilisi State University Works N5 [84] migration of the easily soluble salts in The Alazani Valley soils in conjunction with climate / L. Shavliashvili, G. Kordzakhia, N.Tugushi, G. Kuchava, E. Bakradze / p. :189-193, 2013.

International Conference "Modern Problems of Geography" migration of the easily soluble salts in The Alazani Valley soils in conjunction with climate Tbilisi State University, November 7-9, 2013

GTU Student -80 open international Scientific conference, section Geology, Field of the theme:"River Mashavera and Poladauri Modern Geo-Ecological Characterization" Awarded by Diploma of III place, 2012 may;

Hydrochemical investigations of the Mashavera River and their results. /E.Bakradze, G.Kuchava, M.Arabidze, N.Buachidze, E.Shubladze/ - Georgian Engineering News #2 (62), p.106-108, 2012.

The modern geochemical characteristic of the rivers of Mashavera and Poladauri taking into account anthropogenic impact. /E.Bakradze, G.Kuchava, M.Arabidze, N.Buachidze, E.Shubladze/ - Georgian Engineering News #3 (63), p. 86, 2012;

The thesis - on the "Modern Geo- Ecological Characteristics of the rivers Mashavera and Foladauri" published in Georgian Technical university collected articles students 80-th International Scientific Conference page 78, 2012 year;

Clinoptilolite Use in Non-Irrigated Soils of Alazani Valley. /L.Shavliashvili,G.Kordzaxia, N.Naskidashvili, N.Tughushi, G.Kuchava, E.Bakradze/ - Georgia Chemical Journal, Vol.12, № 2, Tbilisi, p.186-188, 2012;

"Some Aspects of Changes of the Black Sea Pollution" - /E. Bakradze, G.Kuchava, M.Arabidze /Works of Georgian Technical University Hydro meteorological institute vol. 116, 2011 year;

Hydrochemical Monitoring of the Liakhvi River. /Buachidze, K.Bilashvili, L.Intskirveli, G.Kuchava, E.Bakradze, N.Beglarashvili, L.Shavliashvili/. - Collected Papers, New Series №3 (82) "Environment and Global Warming", Proceeding of International Conference, Tbilisi, p.330-334, 2011.

G.P.Kuchava, E.M.Bakradze, M.A.Arabidze, M.G.Chigitashvili About modern a condition of monitoring of river. Hens for 2007-2008. Works of Technical University #3 (481), Art. 12-18, Tbilisi 2011

The modern condition of monitoring of the river Kura for 2007-2008. /G.Kuchava, E.Bakradze, M.Arabidze, M.Chigitashvili/ - Georgian Technical University, №3(481), p.12-17, 2011.

L. Intskirveli, N.. Buachidze, M.. Arabidze, c. Kuchava, E.. Bakradze, N.. Dvalishvili,M.. Tabatadze "Water quality determination in the Kura River basin using of the integrated of hydro-chemical parameters" the Technical University, Institute of Zoology of Hydrometeorology, vol.# 117, 128-131 2011

Papers of the International Conference Determination of the Quality of River Kura Basin Waters Using Integral Hydrochemical Indexes. /L.Intskirveli, N.Buachidze, M.Arabidze, G.Kuchava, E.Bakradze, N.Dvalishvili, M.Tabatadze/. - Transactions of the Institute of Hydrometeorology at the Georgian Technical University, vol.117, "Pressing Problems in Hydrometeorology and Ecology", Tbilisi, p.128-130, 2011.

2010 -"The modern Ecological characteristic of the river Liakhvi basin" - /N.Buachidze, /L.Intskirveli, E. Bakradze, G.Kutchava/ Journal "Scientific and Technologies, Georgia"2010 N 10 -12;

International Scientific - Technical Conference Proceedings ISSN1512-0902, Technical University, Institute of Hydrometeorology the river. Kura basin water quality parameters using the integrated hydrochemical indicators / - L. Intskirveli, N. Buachidze, M. Arabidze, G. Kuchava, E. Bakradze, N. Dvalishvili , M. Tabatadze / Tbilisi 2011

2008 - "Some Aspects of Changes of The Black Sea Water Pollution" /G.Kuchava/, /M.Arabidze/, /E.Bakradze/ National Environmental Agency CONFERENCE: "SOME ASPECTS OF CHANGES OF THE BLACK SEA WATER POLLUTION IN GEORGIA" (2000-2008)(Elina Bakradze, Marine

Arabidze, George Kordzakhia, Gulchina Kutchava Elina Bakradze – The Centre for Monitoring and Prognostication 150, David Agmashenebeli av., 0112, Tbilisi, Georgia page 38-42;

2nd BIENNUAL AND BLACK SCENE EC PROJECT JOINT CONFERENCE SOME ASPECTS OF CHANGES OF THE BLACK SEAWATER POLLUTION IN GEORGIA(2000-2008) (Elina Bakradze, Marine Arabidze, George Kordzakhia, Gulchina Kutchava, Sofia, Bulgaria 6-9 October;

2006 – International Conference – Enikolopov’s readings, 4-6 October 2006 erevan Armenia New carbofunctional siliconorganic oligomers./Samakashvili S., Baqradze E., Sanshiashvili N., Lekishvili N.,/

2005 13-14 December - The VI Scientific Conference of young Chemists of Georgia which was published by the Chemical Society of Georgia in the State University of Tbilisi. (Pages 47-48);

**16. Other trainings, study tours, seminars:**

Educational Institution	San Diego State University California
<i>Period: from/to</i>	April -May 2023 (one month)
<i>Description of studies:</i>	SDSU- Georgia faculty Development Program

Educational Institution	Sustainable Criminal Justice Solutions Europe I Project 67 of the EU CBRN CoE Initiative, titled 'Strengthening
Educational Institution	CBRN Waste Management Capabilities in South-East and Eastern European Countries
<i>Period: from/to</i>	2021 from 09 November 02 December
<i>Period: from/to</i>	2022 27-30 June
<i>Description of studies:</i>	has attended the course "Health Environment Research Agenda (HERA)
<i>Description of studies:</i>	Study visit on best practice for remediation of highly contagious disease contaminated areas
Educational Institution	The course has been designed by the Government of Pakistan in collaboration and for remediation of dump sites of outdated and forbidden of Chemical Weapons (OPCW) for all agricultural (fertilizers, pesticides, herbicides etc.) and other hazardous chemicals and
<i>Period: from/to</i>	2021 from 15 to 19 March
<i>Description of studies:</i>	International Course on Recycler facilities (GIS Sampling Biological Waste Highly Contaminated Environment (Online)

Educational Institution	LEPL Ivane Beritashvili Center Of Experimental Biomedicine under Ministry of Education, Science, Culture and Sport of Georgia
<i>Period: from/to</i>	2020 year 26.02.2020-11.03.2020
<i>Description of studies:</i>	Radiation safety issues

<i>Educational Institution</i>	Bavaria DVW German economic union
<i>Period: from/to</i>	2019 October
<i>Description of studies:</i>	modern technologies and methods for water infrastructure and management

<i>Educational Institution</i>	EUWI plus
<i>Period: from/to</i>	2019 November
<i>Description of studies:</i>	Ecological Classification

<i>Educational Institution</i>	The Unified National Body of Accreditation
<i>Period: from/to</i>	2019 March

<i>Description of studies:</i>	Standard for technical evaluation
--------------------------------	-----------------------------------

<i>Educational Institution</i>	The Unified National Body of Accreditation
<i>Period: from/to</i>	30.04.19
<i>Description of studies:</i>	Technical assessor

<i>Educational Institution</i>	UNDP-GEF Kura Aras Project
<i>Period: from/to</i>	April 2019, Budapest, Croatia, Slovenia
<i>Description of studies:</i>	Study visit water quality management;

<i>Educational Institution</i>	UNDP Kura II
<i>Period: from/to</i>	2019 February, June
<i>Description of studies:</i>	Environmental Laboratories management ISO 17025: 2018

<i>Educational Institution</i>	Ivane Javakhishvili Tbilisi State University
<i>Period: from/to</i>	2019 September
<i>Description of studies:</i>	Conference certificate paper: "Study of pollution of rivers and soils in the adjacent areas of Madneuli in Bolnisi Municipality"

<i>Educational Institution</i>	EUWI Plus
<i>Period: from/to</i>	2019 May
<i>Description of studies:</i>	ISO 17025:2018

<i>Educational Institution</i>	UNDP-
--------------------------------	-------

<i>Period: from/to</i>	2019 Irland Corck March
<i>Description of studies:</i>	Workshop Ambient water quality monitoring: current status and opportunities for global engagement and SDG indicator 6.3.2 reporting

<i>Educational Institution</i>	UNDP-GEF Kura Aras Project
<i>Period: from/to</i>	February 2019
<i>Description of studies:</i>	training on implementation of quality management in environmental Laboratories;

<i>Educational Institution</i>	Project: EU Water Initiative for Eastern Partnership
<i>Period: from/to</i>	September .2018 Moldova
<i>Description of studies:</i>	Auditing management systems and the requirements of the international standard EN ISO 17025:2017

<i>Educational Institution</i>	UNDP-GEF IWRM Academy
<i>Period: from/to</i>	March 2018
<i>Description of studies:</i>	training on implementation of quality management in environmental Laboratories;

<i>Educational Institution</i>	UNDP-GEF IWRM Academy
<i>Period: from/to</i>	April 2018
<i>Description of studies:</i>	Laboratory Internal Audit and Accreditation process according to ISO 17025

<i>Educational Institution</i>	Project EUWI Plus
<i>Period: from/to</i>	April 2018
<i>Description of studies:</i>	Workshop on method validation, measurement uncertainty and

	metrological traceability in accordance with EN ISO 17025:2017
<i>Educational Institution</i>	Agilent technologies representative Geolabinstruments
<i>Period: from/to</i>	21-24 February 2018
<i>Description of studies:</i>	GC/MS

<i>Educational Institution</i>	European Union Water Initiative Plus for Eastern Partnership
<i>Period: from/to</i>	12-13 December 2017
<i>Description of studies:</i>	Laboratory Basics and Fundamentals of ISO Certification

<i>Educational Institution</i>	Slovak Aid Harmonization of Analytical Methods Used in the National Environmental Agency of Georgia with the Requirements of the Water Framework Directive
<i>Period: from/to</i>	Slovakia, 24 th– 030th September 2017
<i>Description of studies:</i>	Study tour WFD implementation

<i>Educational Institution</i>	Slovak Aid Harmonization of Analytical Methods Used in the National Environmental Agency of Georgia with the Requirements of the Water Framework Directive
<i>Period: from/to</i>	Slovakia, 31th March – 06th May 2017



<i>Description of studies:</i>	Hands on training on sample treatment methods for extraction WFD pollutants from surface waters and sediments
<i>Educational Institution</i>	EMBLAS II -project
<i>Period: from/to</i>	Ukraine, Odessa 20-26 November 2016 year
<i>Description of studies:</i>	Chemistry Training on Analysis of Organic Micropollutants Organic by Gas Chromatography- Mass Spectrometry (GC-MS), Part II

<i>Educational Institution</i>	UNDP/GEF
<i>Period: from/to</i>	27-28 September 2016
<i>Description of studies:</i>	Mercury inventory toolkit

<i>Educational Institution</i>	EMBLAS II -project
<i>Period: from/to</i>	Ukraine, Odessa 25-27 July 2016 year
<i>Description of studies:</i>	Course on Marine chemistry (GC-MS)

<i>Educational Institution</i>	UNESCO-IHE institute for water education
<i>Period: from/to</i>	Netherlands June 13-17 2016 year
<i>Description of studies:</i>	Exchange program on water management in accordance with EU-WFD

<i>Educational Institution</i>	TAIEX Workshop on Persistent Organic Pollutants Waste Management
<i>Period: from/to</i>	Slovakia April 20-23 2016

<i>Description of studies:</i>	multi country meeting Providing an overview of the E-Register initiative
<i>Educational Institution</i>	Branislava Water Research Institute to HBCD and BDEs
<i>Period: from/to</i>	Slovakia December 17-24 2016
<i>Description of studies:</i>	Analyses of Current monitoring activities in Slovakia

<i>Educational Institution</i>	National Environmental Agency
<i>Period: from/to</i>	Georgia, January 2016
<i>Description of studies:</i>	Training on Ion Chromatography ICS 2100

<i>Educational Institution</i>	Thermo
<i>Period: from/to</i>	Georgia, October , 2015
<i>Description of studies:</i>	Training on Ion Chromatography

<i>Educational Institution</i>	Estonian Ministry of Environment in co-operation with the Estonian Centre of Eastern Partnership, supported by SIDA
<i>Period: from/to</i>	Georgia, 2-3 November , 2015
<i>Description of studies:</i>	Seminar " reforming Georgian environmental sector"

<i>Educational Institution</i>	Norsk Energi
<i>Period: from/to</i>	2015 July
<i>Description of studies:</i>	Knowledge Sharing Workshop in the frame of the program Sustainable Hydropower Development in Georgia. Workshop on Environmental and Social Planning for Management of Hydropower Projects.

<i>Educational Institution</i>	MILESTONE
<i>Period: from/to</i>	2015 May

<i>Description of studies:</i>	Microwave Extraction System
--------------------------------	-----------------------------

<i>Educational Institution</i>	Strengthening of the Metrology and Standardization Infrastructure According to the Best Practices in the EU Member States"
<i>Period: from/to</i>	January 15-16, <b>2014</b>
<i>Description of studies:</i>	Introduction into the audit methodology according to ISO 19011: 2011 "Guidelines for Auditing Management Systems"

<i>Educational Institution</i>	EPIRB and Human Dynamics
<i>Period: from/to</i>	<b>2013</b>
<i>Description of studies:</i>	Introduction to the procedures and techniques required for international accreditation and quality control for water laboratories ISO 17025

<i>Educational Institution</i>	Training for Legal and Administrative Capacity Strengthening in pesticide site investigation, risk assessment and management options, UNDP; REC Caucasus; GEF; Ministry of Environment Protection.
<i>Period: from/to</i>	<b>2012</b>
<i>Description of studies:</i>	in pesticide site investigation

<i>Educational Institution</i>	Environmental public Health
<i>Period: from/to</i>	<b>August 2012</b>
<i>Description of studies:</i>	University Minnesota school of Public Health

<i>Educational Institution</i>	Assessment of Traceability of Measurements, Internal Quality Control, Proficiency Testing and Measurement of Organic Compounds
<i>Period: from/to</i>	<b>FINNLAND 2012</b>
<i>Description of studies:</i>	QA QC Organic Compounds

<i>Educational Institution</i>	University of MINNESOTA, of Public Health
--------------------------------	---

	Division of Environmental Health sciences
<i>Period: from/to</i>	<b>August 2012</b>
<i>Description of studies:</i>	Environmental public health training

<i>Educational Institution</i>	Assessment of Traceability of Measurements, Internal Quality Control, Proficiency Testing and Measurement Uncertainties in Testing Labs (ISO/IEC 17025)
<i>Period: from/to</i>	<b>26-28 of march 2012</b>
<i>Description of studies:</i>	(ISO/IEC 17025)

<i>Educational Institution</i>	UNDP/GEF Project
<i>Period: from/to</i>	<b>27-30 March 2012</b>
<i>Description of studies:</i>	Rapid Ecological Assessment- Environmental Flows- Bio-Monitoring

<i>Educational Institution</i>	University of MINNESOTA, of Public Health Division of Environmental Health sciences
<i>Period: from/to</i>	<b>2-3 September 2010</b>
<i>Description of studies:</i>	Environmental Health

<i>Educational Institution</i>	Environmental Institute
<i>Period: from/to</i>	<b>6 – 13 June Slovakia 2010</b>
<i>Description of studies:</i>	“General requirements for the competence of testing and calibration laboratories” ISO 17025 QA/QC

<i>Educational Institution</i>	Georgia by the Slovak experts
<i>Period: from/to</i>	<b>2010</b>
<i>Description of studies:</i>	ISO 17025 QA/QC

<i>Educational Institution</i>	Federal Ministry of Economic Cooperation and Development (BMZ) on behalf of the Government of the Federal Republic of Germany.
<i>Period: from/to</i>	<b>5-6 July, 2010</b>
<i>Description of studies:</i>	Communication management

<i>Educational Institution</i>	University of MINNESOTA, of Public Health Division of Environmental Health sciences
<i>Period: from/to</i>	<b>March 31 – 3 April, 2009</b>
<i>Description of studies:</i>	Environmental Characterization (Ground Water & surface water) and risk Assessment at hard rock mine sites

<i>Educational Institution</i>	European school of Management ESM- Tbilisi.
<i>Period: from/to</i>	□□□□□□□□□□□□□□□□
<i>Description of studies:</i>	Program on management and have proper certificate.

<i>Educational Institution</i>	2nd Biannual and Black Sea SCENE EC project joint conference, Sofia, Bulgaria
<i>Period: from/to</i>	<b>2008</b>
<i>Description of studies:</i>	Reporting

<i>Educational Institution</i>	Tourism and Resort Department
<i>Period: from/to</i>	<b>27, 2008</b>
<i>Description of studies:</i>	"Tourism and climate changes".

<i>Educational Institution</i>	Georgian Finnish Project Development of Environment monitoring and Management Systems in Georgia
<i>Period: from/to</i>	<b>18 – 20 March, 2008</b>
<i>Description of studies:</i>	Quality management for Environmental Laboratories

<i>Educational Institution</i>	EUROPEAN CSCHOOL OF MANAGMENT ESM- TBILISI
<i>Period: from/to</i>	<b>February 27 – 2 April, 2008</b>
<i>Description of studies:</i>	Program in management

<i>Educational Institution</i>	SYKE Study tour “Water resources management”
<i>Period: from/to</i>	<b>2- 16 June 2008</b> Estonia and Finland
<i>Description of studies:</i>	Developing of the Environmental monitoring and management systems

<i>Educational Institution</i>	UNEP, GPA, BSERP
--------------------------------	------------------

<i>Period: from/to</i>	<b>12- 13 June, 2007</b>
<i>Description of studies:</i>	National Workshop for Georgia in Support of Capacity – Building of National and Local Authorities responsible for the Implementation of the Revised Black sea Protocol Against Pollution from Land-Based Sources and Activities to the Bucharest Convention

<i>Educational Institution</i>	The SPAMGO training centre
<i>Period: from/to</i>	<b>21 -27 May 2007</b>
<i>Description of studies:</i>	PROJECT MENEAGMENT

<i>Educational Institution</i>	The SPAMGO training centre
<i>Period: from/to</i>	<b>29 November, 2007</b>
<i>Description of studies:</i>	Environmental Management Systems

<i>Educational Institution</i>	The SPAMGO training centre
<i>Period: from/to</i>	<b>14 -27 May 2007</b>
<i>Description of studies:</i>	Water and Sanitation