



# Georgian National Academy of Sciences



## Personal Data (CV)

<b>Surname</b>	Gavardashvili	<b>First Name</b>	Givi
<b>Address (work, home)</b>	Tsothne Mirtskhulava Water Management Institute of Georgian Technical University, 60-B, I. Chavchavadze Avenue, 0179 Tbilisi, Georgia ( <i>work</i> ) Varketili-3, II micro district, building 29, apt. #17, 0169 Tbilisi, Georgia ( <i>home</i> )	<b>Date and place of birth</b>	15.01.1958, Akhmeta
<b>Citizenship</b>	Georgia	<b>Telephone number(s)</b>	+995 593 153 470 +995 032 2 796 796
<b>E-mail</b>	givi_gava@yahoo.com	<b>ORCID</b>	<a href="https://orcid.org/0000-0001-9237-5544">https://orcid.org/0000-0001-9237-5544</a>

### 3. Education

Education	Institution	Learning Time
Secondary	Secondary school of village Ozho, Akhmeta Region	1964-1974
Higher	Georgian Agricultural Institute, Faculty of Land Reclamation (Amelioration), graduated with Honors	1976-1981
Postgraduate study, doctoral candidacy	Postgraduate internal study at the Scientific-Research Institute of Hydraulic Engineering and Amelioration of Georgia	1981-1984

### 4. Knowledge of Languages

Foreign languages	Level of language proficiency (fluent, intermediate, beginning with the help of a dictionary)
English	Fluent
Russian	Fluent
German	With dictionary

### 5. Scientific or Academic Degree and Rank

	Title of the thesis	Date of conferment	Degree

Ph.D. thesis	Riverbed processes in mountain and foothill sites in the zone of regulation by ponds	1987	Candidate of Technical Sciences
Doctoral thesis	New springboard-type flood controlling structures and methodology for their computation	1996	Doctor of Technical Sciences
Professor	Agricultural Amelioration	2000	
Member of the Academy	Hydroamelioration	2022	

## 6. Work Experience

Date	Institution	Position
1985-1987	Scientific-Research Institute of Hydraulic Engineering and Amelioration of Georgia	Junior Scientific Worker
1987-1996	Scientific-Research Institute of Hydraulic Engineering and Amelioration of Georgia	Senior Scientific Researcher of the Debris-Flow Field Research Sector
1996-2003	Scientific-Research Institute of Hydraulic Engineering and Amelioration of Georgia	Head of the Erosion and Debris-Flow Field Research Sector
1996-2003	Scientific-Research Institute of Hydraulic Engineering and Amelioration of Georgia	Head of the Laboratory of Erosion and Debris-Flow Processes
2005 -2006	Institute of Water Management and Engineering Ecology of Georgian National Academy of Science	Director
2007 -2011	LEPL Water Management Institute	Director
2011 -To present	Water Management Institute of Georgian Technical University (GTU)	Director
2018 - To present	Water Management Institute of Georgian Technical University (GTU)	Chief Scientist

### 6.1 Teaching Activity

Date	Institution	Position
1993-1996	State Agrarian University of Georgia	Vice-Professor
1997-2000	State Agrarian University of Georgia	Professor
1998-2001	Higher Education Center of Georgian Railway Department	Professor
2002-2003	Georgian Railway Institute	Head of the Chair, Professor
2003-2005	Georgian Railway Institute	Deputy Director in the Scientific Department, Professor
2005-2006	Georgian Railway Institute	Deputy Director on the Teaching and Scientific Department
2010-2011	Accredited Georgian-British University of International Law and Management	Full Professor
2012-To present	Georgian Technical University	Professor
2007, 2011, 2014	Central China Normal University (Wuhan)	Invited Professor, Honorable Professor
2006	Hessen University (Germany)	Invited Professor
2015	Belarusian State University (Minsk)	Invited Professor
2016	Brest State Technical University (Byelorussia)	Invited Professor
2017	Kaunas University of Applied Sciences (Lithuania)	Professor of Erasmus+ Program
2018, 2019	Warsaw University of Life Sciences (Poland)	Invited Professor
2021	University of Warmia and Mazury in Olsztyn (Poland)	Invited Professor

### 6.2 Work Abroad

Form of activity	Date	Place and Institution
Delivering a course of lectures at	2006	- Hessen University, Germany

<b>foreign higher education institutions</b>	2007 2008 2014 2015 2016 2017  2017-2018 2021	- Central China Normal University, Wuhan - Lomonosov Moscow State University - Central China Normal University, Wuhan - Belarusian State University, Minsk - Brest State Technical University, Byelorussia - Erasmus + Program, Kaunas University of Applied Sciences, Lithuania - Warsaw University of Life Sciences, Poland - University of Warmia and Mazury in Olsztyn, Poland
<b>Long-term academic mission to research institutions</b>	1999 1999 2009  2011 2014  2014 2017 2018 2018- 2019 2021	- Israeli International Cooperation Program "Mashavi" - US Department of Agriculture, Washington - California State University, Fresno, USA  - U.S. Department of Agriculture, University of North Carolina. Rally - University of Padua, Italy  - UNESCO IHE Delft Institute for Water Education, The Netherlands - Central China Normal University, Wuhan - Kaunas University of Applied Sciences, Lithuania - Warsaw University of Life Sciences, Poland - University of Warmia and Mazury in Olsztyn, Poland
<b>Editorial Board Membership</b>		
<b>Of national journals</b>	2018	Editor of the Recommendation "The Design and Operation of Drainage Systems"
	2017	Member of the Editorial Board of Journal "The Science and Technology"
	2017	Editor of the Monograph "The Modern Methods of Economic Valuation of Investments in Water Management"
	2017	Editor of the Monograph "The Mudflows and Modern Engineering Measures to Combat Them"
	2016	Editor of the Monograph "The Economic Aspects of Georgia's Agricultural Intensification"
	2016	Reviewer of the Monograph "The Water Resources and the Use of the Mtkvari River in the South Caucasian Regions", St. Petersburg
	2016	Editor of the Recommendation "The Methodological Recommendations for Regulation of the Water Intake and Water Pipelines of Kolkheti Valley Drying Network and Reinforcement of their Beds".
	2011	Editor of the Monograph "Resource-Saving Coastal Buildings"
	2007-To present	Chief Scientific Editor of the Collection of Scientific Works of the Tsotne Mirtskhulava Water Management Institute of Georgian Technical University
<b>Of international journals</b>	2015	Editorial Board Member in Journal "Water Problems Science and Technology". Baku, AZERBAIJAN
	2016	Editorial Board Member in Journal, "Construction of Optimized Energy Potential". Czestochowa University of Technology, Chestokhova, POLAND
	2016	Journal «Hi-Tech News» Yerevan, ARMENIA.
	2016-2019	Journal «Ecological Systems and Instruments», Moscow, Russia.
	2018	Journal "GEORISK", Moscow, Russia
	2019	Journal "Engineering surveys", Moscow, Russia
	2020	Editorial Board Member in Journal Visnyk of V. N. Karazin Kharkiv National University series „Ecology”, Karkov, UKRAINE
	2020	Editorial Board Member in Vestnik Brest State Technical University, BELARUS
	2020	Editorial Board Member in Journal of Civil, Construction and Environmental Engineering (JCCEE), New York, U.S.A.
<b>Dissertation Council Membership</b>		
	2018 -To present	Member of the University Dissertation Council of Geography

		of Faculty of Exact and Natural Sciences of the Iv. Javakhishvili Tbilisi State University
	2020 -To present	Member of the University Dissertation Council of Agrarian Sciences at the Faculty of Agrarian Sciences and Biosystems Engineering of Georgian Technical University

## 7. Sphere of Scientific Interests

<ul style="list-style-type: none"> <li>- Hydromelioration (irrigation, drainage, erosion).</li> <li>- Large-scale laboratory modeling of irrigation and drainage systems.</li> <li>- Safety of agricultural plots and problem prediction and control.</li> <li>- Soil erosion processes prediction and control.</li> <li>- Modern methods of integrated water resource management by considering the climate change.</li> <li>- Hydraulic structures.</li> <li>- Reliability and risk assessment of the operation of hydraulic structures.</li> <li>- Designing the innovative environmental protection structures.</li> <li>- Predicting natural disasters and designing protective facilities by using up-to-date techniques and technologies;</li> </ul>
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## 8. Publications (Total number, indicating the Citation Index (*number*))

### 8.1 Monographs

Years	
1995	Gavardashvili G. - The New Mud-Protective Structures and Their Calculation Methodology. Tbilisi, Republic of Georgia, p. 58.
1999	Gavardachvili G. - Les Nouvelles Espèces Des Constructions De la Nature. Metsniereba, Tbilisi, p. 42.
2003	Gavardashvili G. -Prediction of Erosion-Mudflow Processes in the Duruji River Basin and New Engineering-Ecological Measures Against Them. Metsniereba, Tbilisi, p. 116.
2011	Gavardashvili G. - Safety Measures for Mountain Landscapes During the Natural and Technogenic Disasters. Tbilisi, Publishing House Universal, p. 237.
2014	Natishvili O.G., Urushadze T.F., Gavardashvili G. - Wave Motion of Slope Runoff and Intensity of Soil Erosion. Publishing House "Nauchtehlitizdat", Moscow, p. 163.
2016	Gavardashvili G. (Co-authored) - Assessing the Vulnerability of Sensitive Areas in the Borjomi Gorge in 2008 and Developing an Effective Strategy Against Soil Degradation. Publishing House Universal, Tbilisi, p. 91.
2016	Gavardashvili G. (Co-authored) Brief description of the Black Sea Resorts of Georgia in the Sea Area and Assessment of Water Quality of the Rivers Flowing into It. Publishing House Universal, Tbilisi, p. 39.
2018	Gavardashvili G. -Ecological Problems of the Duruji River and Innovative Environmental Protection Measures. Publishing House Universal, Tbilisi, p. 260.
2018	Iordanishvili I., Gavardashvili G., Iremashvili I., Vartanov M., Iordanishvili K. - The Cadastre of the Water Supplies of Georgia. Publishing House Universal, Tbilisi, p. 260.
2018	Kukhalashvili E, Gavardashvili G., Kupreishvili Sh. - Expected Risk of Cohesive Debris Flows and Fighting Against Them. Lambert, Academic Publishing, GmbH, Norderstedt, Germany, 87 p.
2019	Gavardashvili G. (Co-authored) - Identification of the Risk zones of flooded areas in case of possible accident of Zhinvali Earth Dam and assessment of the rules of conduct of the population in case of emergency. Tbilisi, Publishing House Sachino, p. 63.
2020	Gavardashvili G. (Co-authored) -Assessing the Safety Risks of Vulnerable Infrastructure in Case of Formation of Expected Zhinvali Earth Dam Disaster and Improving the Ecological Awareness of the Population in the Risk Zones. Publishing House Sachino, p. 70.
2021	Gavardashvili G. (Co-authored)-Risk Regulation for Mudflow Channels and Calculation Methodology for Innovative Structures. Publishing House Sachino, p. 51.
2022	Gavardashvili G. (Co-authored) –Assessment of Safety Risks of Vulnerable Infrastructure in Case of Formation of Expected Disasters. Publishing House, Universal, Tbilisi, p. 170.
2022	Gavardashvili G. (Co-authored) -Assessment of Vulnerable Infrastructure Security Risk in the Formation of Anticipated Disasters. Tbilisi, Universal, p. 122.

### 8.2 Principal Papers (no more than 50)

Years	
1984	Gavardashvili G. -An arch-conical springboard-type dam to regulate mountain streams. Collection of Scientific Papers of Georgian Research Institute of Geology and Mineralogy "Issues of Meliorated Land Protection in Mountains". Tbilisi, pp. 35-37.

1985	Tevzadze V., Gavardashvili G.- Study of the blocking effect of an open-end mudflow control structure. Tbilisi, pp. 165-168.
1986	Gavardashvili G. - Investigation of the equalization gradient of drift in the headrace of anti-mudflow blocking structures on mountain rivers. The Bulletin of the Georgian Academy of Sciences. Vol.123, № 1, Tbilisi, pp.105-108.
1986	Gavardashvili G. - Results of laboratory investigations of a new anti-mudflow half-cylinder-shaped structure. Bulletin of the Georgian Academy of Sciences, Vol.121, № 1, Tbilisi, pp. 169-171.
1988	Gavardashvili G. - Calculation of solid debris flow drift profile behind a transverse channel-regulating weir. In book: "Issues of Reclamation in Mountain and Foothill Conditions", Proceedings of the Georgian Research Institute of Geology and Mineralogy, pp. 27-29.
1990	Tevzadze V., Gavardashvili G. - Calculation of reliability of mudflow prevention flume structure taking into account the elements of ecological safety of the area. In: "Problems of Melioration Ecology". Collection of Scientific Papers of Georgian Research Institute of Geology and Mineralogy, Tbilisi, pp. 90-98.
1991	Tevzadze V., Gavardashvili G., Mirianishvili M.- Determining the bed roughness coefficient of mudflow water currents. Bulletin of the Georgian Academy of Sciences, Vol. 142, #3, Tbilisi, pp. 553-555.
1993	Tevzadze V., Gavardashvili G.- Calculation of discharges of non-cohesive mudflow currents by considering the hydrological characteristics of a river catchment basin. Bulletin of the Georgian Academy of Sciences, Vol. 148, #1, Tbilisi, pp. 77-79.
1993	Gavardashvili G., Pasikashvili M. - Interpretation of the limit equilibrium of solid mass accumulated in the bed on catastrophic floodplains using the theory of catastrophes. Bulletin of the Georgian Academy of Sciences, Vol. 149, #2, Tbilisi, pp. 259-262.
1993	Gavardashvili G., Pasikashvili M. – General analysis of landslide processes using the theory of catastrophes. Journal “Science and Techniques”# 9-10, Tbilisi, pp. 18 -20.
1993	Gavardashvili G., Pasikashvili M. - Analysis of possible accidents of new anti-mudflow springboard-type structures using the theory of catastrophes. Journal “Science and Techniques”#11-12, Tbilisi, pp. 31-34.
1995	Gavardashvili G. -Determining the surface levels of solid sediments accumulated in the headrace of the anti-mudflow structure. Bulletin of the Georgian Academy of Sciences, Vol. 151, #3, Tbilisi, pp. 448 -451.
1995	Tevzadze V., Gavardashvili G. – Determining the cohesive mudflow velocity by considering air resistance. Bulletin of the Georgian Academy of Sciences, Vol. 151, #3, Tbilisi, pp. 444-447.
1997	Gavardashvili G. - On the law of the mudflow impact force distribution. Journal "Science and technology, # 1-3, Tbilisi, pp. 123-128.
1998	Gavardashvili G., Nadaraia M. N. - Protection of Mountain Lands-capes from the Erosion and Debris flow. Bull. of the Georgian Academy of Sciences. Tbilisi, Vol.158, #2, pp. 297-299.
1998	Gavardashvili G. - Calculation of New Spring Board Type Mud-Protective Structure. Bull. of the Georgian Academy of Sciences. Tbilisi, T.159 # 3, pp. 459-461.
1999	Gavardashvili G. - Calculation methodology to design a springboard-type anti-mudflow structure. Collection of Jubilee Scientific Workd of the Institute of Water and Ecology of Georgian Academy of Sciences, dedicated to the 70th anniversary of the Institute. Tbilisi, pp. 22-28.
2000	Gavardashvili G., Kasaburi I. S. Mathematical Model of Landslide Flow Motion. Bull. of the Georgian Academy of Sciences. Tbilisi, T.161, # 1, pp. 88-89.
2002	Gavardashvili G., Chakhaia G. G. -Evaluation of Present Ecological Situation of the River Duruji Drainage Basin. Bull. of the Georgian Academy of Sciences. Tbilisi, T. 166, # 1, pp. 174-177
2002	Gavardashvili G. - Ecological balance of mudflow streams along the Georgian Military Road. (Methods of reliability and risk theories). Journal "Engineering Ecology", Moscow, № 2, pp.11-17.
2002	Gavardashvili G., Topuridze Z. - Assessment of the Reliability of Georgia's Mountain Slopes in the Baku-Supsa Oil Pipeline Corridor. Journal "Engineering Ecology", Moscow, № 5, pp. 39-47.
2003	Gavardashvili G. - Assessment of erosion processes in mountain landscapes in the oil and gas pipeline "corridor". Journal "Engineering Ecology", Moscow, № 6, pp. 51-57.
2004	Gavardashvili G., Chakhaia G. - Forecast and assessment of erosion-mudflow processes in Ajaristskali River basin. Journal “The Science and Technology”, #7-9, Tbilisi, pp. 61-66.
2005	Gavardashvili G., Tsulukidze L.- Determination of the volume of solid fractions transported by mudflow to the transport corridor by considering the configuration of stone inserts. Journal “The Science and Technology”, #7-9, Tbilisi, pp. 58-62.

2006	Gavardashvili G. - Failure analysis of an arch-step mudflow control structure using the Theory of Catastrophes. // Environmental Systems and Instrumentation. № 5, Moscow, pp. 50-53.
2006	Gavardashvili G., Tsulukidze L. -Analysis of the Onset of Avalanche Motion Using the Theory of Catastrophes. Bull. of the Georgian National Academy of Sciences. Tbilisi, T. 173, #2, pp. 396-399
2007	Gavardashvili G., L. King, M. Schaefer - Debris Flow at the River Mletis Khevi in the Great Caucasus (Georgia) and its Assessment Methods. Center for International Development and Environmental Research. Justus-Liebig University Giessen. # 32, 15 p. GERMANY, Giessen, www.uni-giessen.de/zeu
2007	Gavardashvili G. - Erosion and mudflow processes and solar activity. // Ecological Systems and Instruments. № 3, Moscow, pp. 50-53.
2007	Gavardashvili G., Modebadze N., Gavardashvili N.- A new design of a combined three-level drainage system and calculation of the drainage capacity. //Engineering Ecology, Moscow, № 3, pp. 55-61.
2007	Gavardashvili G. - Prediction and assessment of erosion-mudflow processes in the Tetri Aragvi catchment basin. Proceedings of LEPL Water Management Institute #63. Tbilisi, pp. 22-32.
2007	Mirtskhulava T., Natishvili O., Tevzadze V., Gavardashvili G., Chakhaya G., Tsulukidze L., Balantsarashvili V.I. - On the nanosuppression and anti-erosion capacity of vetiver plants. Collection of Scientific Papers of the Georgian Institute of Water Management, №63, Tbilisi, pp. 158 -168
2008	Gavardashvili G., Chakhaia G., Gavardashvili N. -The Investigation of Vetiver Grass ( <i>Vetiveria zizanioides</i> , L. Nash) in the Greenhouse. //Annals of Agrarian Sciences. Vol.6, #1, Tbilisi, pp. 31-41.
2008	Gavardashvili G. - Current ecological status of the Duruji River basin. // Ecological Systems and Instruments. Moscow, pp. 51-55.
2009	Gavardashvili G., Vartanov M. - Assessment of the ecological and economic damage of the forests burnt as a result of hostilities in Georgia in August 2008 and anti-soil erosion measures for mountain slopes. Collection of Scientific Papers of LEPL Water Management Institute of Georgia #64, Tbilisi, pp. 48-59.
2010	Gavardashvili G. - Computer simulation of flooding in case of the Enguri dam failure. Proceedings of the Water Management Institute of Georgia, №65, Tbilisi, pp. 42-52.
2010	Gavardashvili G., Diakonidze R., Chakhaya G., Tsulukidze L., Pirskhalaishvili I. - Study of the Aragvi River channel processes from Zhanvali earth dam to the confluence with the Kura River. Collection of Scientific Papers of the Water Management Institute of Georgia, №65, Tbilisi, pp. 31-41.
2011	Gavardashvili G. -Mathematical Modelling of Flood Caused by Possible Failure of Lajanuri Dam. Collected Papers of Institute of Water Management of Georgian Technical University, # 66, Tbilisi, pp.13-19.
2012	Gavardashvili G. -The question of expanding the term of exploitation of hydropower plants and reclamation water reservoirs. Construction of optimized energy potential, 1(9), Wydawnictwo Politechniki Czestochowskiej, Czestochowa, POLAND, pp. 36-40.
2013	Gavardashvili G. - Current mudflow control measures and the development of a methodology for their design. // Georisk, № 2, Moscow, pp. 24-29.
2013	Gavardashvili G. - Regulation of erosion and mudflow processes on mountain gullies with the use of wooden structures. Collection of scientific papers of Czestochowa Polytechnic University, no. 19, Czestochowa, POLSKA, pp. 7-12.
2014	Natishvili O., Urushadze T., Gavardashvili G. - Influence of slope runoff wave motion on soil erosion intensity. Proceedings of Georgian Water Management Institute, №69, Tbilisi, p. 8.
2015	Natishvili O., Gavardashvili G. - Calculation of movement characteristics of the headrace of cohesive debris flow. Proceedings of the Ts. Mirtskhulav Water Management Institute, Georgian Technical University, №70, Tbilisi, pp.138-143
2015	Gavardashvili G., Kukhalashvili E., Diakonidze R., Chakhaia G., Tsulukidze L., Varazishvili Z.- Assessment, analysis and effective measures for natural disasters in the Vere riverbed on June 13-14, 2015. Collection of Scientific Works of the Tshotne Mirtskhulava Water Management Institute of Georgian Technical University #70. Tbilisi, pp. 30-44.
2016	Natishvili O., Gavardashvili G., Kruashvili I. - Hydraulic calculation of fish barrier combined with fish way. // Ecological Systems and Instruments, No.9, Moscow, RUSSIA, pp. 25-31.
2016	Gavardashvili G. -Predicting of Mountain Slope Erosion in the Catchment Areas of the Lakanshera and Lekverari Rivers by Using a Universal Soil Loss Equation of Erosion Processes. Collected Papers of Ts. Mirtskhulava Water Management Institute of Georgian Technical University, # 71, Tbilisi, pp. 17-22.
2017	Gavardashvili G., Hertman L. - A New Drainage system to Divert the Ground Water for the Safety of the

	Foundation of high-rise Buildings. Construction of Optimized Energy Potential. Collected Papers of University, Czestochowa, # 2(20), Czestochowa, POLAND, pp. 101-108
2018	Gavardashvili G. - Prediction of Erosion Processes and Control New Anti-Erosive Engineering Measures in the Corridor of Baku-Tbilisi-Ceyhan Oil Pipeline (Kura River Basin). The problems of water, energy supply and environment problems in modern construction. Azerbaijan University of Architecture and Construction. Baku, AZERBAIJAN, 27 -28 November.
2019	Kukhalashvili E., Gavardashvili G., Kupreishvili Sh., Beraia N.-Effects of Cohesive Mudflow on Semi-Cylindrical Anti-Mud Structure.//Construction of Optimized Energy Potential. Czestochowa University of Technology. Vol.7, #2, Czestochowa, POLAND, pp. 35-44.
2019	Gavardashvili G., Bziava K., Guguchia M. - Innovative Combined Drainage System And Its Technical-Economical Approval. International Workshop on Improving the Water Use Efficiency and Productivity within Water Energy Food Nexus (CROP). 3rd World Irrigation Forum (ICID), Bali, INDONESIA, 1-7 September, pp. 22-29.
2021	Gavardashvili G. - The Results of Flood Risk Evaluation for the Village Nakra, Svaneti. Bulletin of the Georgian National Academy of Sciences. Tbilisi, Vol. 15, # 4, pp. 98-104. ISSN 0132-1447

### 8.3 Textbooks, Additional Manuals, and other Methodological Literature and Training means

Years	
1992	Mirtskhulava T., Tevzadze V., Gavardashvili G. et al. – Natural Disasters (memo). Metsniereba, Tbilisi, p. 20.
1994	Gavardashvili G., Chekurishvili R., Nadaraia M. - "Methodical Guide" – Drafting the cadastre of mountain landscape using aerospace methods. Tbilisi, p. 48.
1998	Gavardashvili G., Kyrii P. et al. - Design of drip irrigation on 4 ha of ground with growing tomatoes in Telavi, Republic of Georgia. Training Centre in Kibbutz Shefaim, Israel, p. 16.
1999	Gavardashvili G., Kukhalashvili G., Mamasakhlisi J., Tugushi P. et al. - Drip irrigation efficiency by considering fertigation. (Methodical Guide). Tbilisi, p. 23.
2000	Gavardashvili G. - Methodical Guide (for check-up works in hydraulics, hydrology and hydraulic vehicles). Tbilisi, p. 23.
2000	Gavardashvili G. - Nature Use Economy (Methodical Guide), Tbilisi, p. 43.
2002	Gavardashvili G. - Nature Use Economy (Training manual). Tbilisi, p. 55.
2003	Gavardashvili G. - Nature Use Economy (auxiliary manual for the Railway Institute students), Tbilisi, p. 64.
2016	Gavardashvili G. - Irrigation, Drainage, Erosion (First Edition). Publishing House Universal, Tbilisi, 410 გვ.
2016	Natishvili O., Kruashvili I., Gavardashvili G., Inashvili I. - Methodical recommendations to design anti-mudflow structures (hydraulic calculations), Tbilisi, p. 48.
2017	Gavardashvili G. - Methodical recommendations to protect forests against fires. Publishing House Universal, Tbilisi, p. 82.
2018	Gavardashvili G. - Irrigation, Drainage, Erosion (Second Edition). Publishing House Universal, Tbilisi, p. 410.

### 8.4 Electronic Publications

Years	Title	Address of Source
2016	The Forecast of Land Reclamation Risk Factors in Georgia Considering Climate Change.	1st International Scientific Conference, „Waterland-2016“, 06-12 June, Kaunas, Lithuania, 14 p. <a href="http://conferencewaterland.weebly.com/">http://conferencewaterland.weebly.com/</a>
2018	Forecasting the Security of the Local People in Village Nakra of Mestia Region (Georgia) Against Floods and Mudflows.	// Environments, ITS, <a href="http://www.itspoa.com/jurnal/envi">www.itspoa.com/jurnal/envi</a> , UK, pp. 13-24
2019	Dynamics of Gully-Formation by Considering the Wave Motion of Flow.	American Scientific Research Journal for Engineering, Technology, and Sciences. (ASRJEST), Vol 55, #1, pp. 17-26. <a href="http://asrjtsjournal.org/index.php/American_Scientific_Journal/issue/view/81">http://asrjtsjournal.org/index.php/American_Scientific_Journal/issue/view/81</a>
2020	Methods to Calculate the Social-Economic Damage Caused by Floods.	Collection of Scientific works of Odesa National Marine University - „Development of Management and Entrepreneurship Methods on Transport. #3(72), Odessa, Ukraine, pp. 5 – 11. <a href="https://www.daemmt.odessa.ua/index.php/daemmt/article/view/324/275">https://www.daemmt.odessa.ua/index.php/daemmt/article/view/324/275</a> DOI 10.31375/2226 - 1915-2020-3-5-11
2020	Some Hydraulic Properties of Cohesive Mudflows.	Polish journal of science, #29, vol. 1, Warsaw pp. 27-30. <a href="https://www.poljs.com/wp-content/uploads/2020/08/POLISH-JOURNAL-OF-SCIENCE-%E2%84%9629-2020.pdf">https://www.poljs.com/wp-content/uploads/2020/08/POLISH-JOURNAL-OF-SCIENCE-%E2%84%9629-2020.pdf</a> ISSN 3353-2389



2020	The impact of climate change on water resources in the Kura River basin (within the Republic of Georgia).	Bulletin of Brest State Technical University - "Water Management, Thermal Power and Geo-ecology", Brest, №2, pp. 10-14. <a href="https://journal.bstu.by/index.php/water/article/view/192">https://journal.bstu.by/index.php/water/article/view/192</a> DOI: <a href="https://doi.org/10.36773/1818-1212-2020-120-2.1-10-14">https://doi.org/10.36773/1818-1212-2020-120-2.1-10-14</a>
2020	Dam Break and Flash Flood Prediction Case Study: Zhinvali Dam, Georgia.	Abstract Book of the Second Eurasian RISC-2020 Conference and Symposium. Tbilisi, GEORGIA, Tbilisi, pp. 98 - 99. DOI: <a href="https://doi.org/10.21467/abstracts.93.55">https://doi.org/10.21467/abstracts.93.55</a> . <a href="http://www.eurasianrisk2020.ge">www.eurasianrisk2020.ge</a>
2020	Earth Dams Risk Management Kura River Basin.	Abstract Book of the Second Eurasian RISC-2020 Conference and Symposium. Tbilisi, GEORGIA, pp. 100 - 101. DOI: <a href="https://doi.org/10.21467/abstracts.93.56">https://doi.org/10.21467/abstracts.93.56</a> <a href="http://www.eurasianrisk2020.ge">www.eurasianrisk2020.ge</a>
2020	Assessment of the Technical Condition of Protective Dams on the Reservoirs and Rivers of Ukraine.	Abstract Book of the Second Eurasian RISC-2020 Conference and Symposium. Tbilisi, GEORGIA, pp. 96-97. DOI: <a href="https://doi.org/10.21467/abstracts.93.54">https://doi.org/10.21467/abstracts.93.54</a> <a href="http://www.eurasianrisk2020.ge">www.eurasianrisk2020.ge</a>
2020	Modern Innovative Debris Flow control Structure.	// Геориск, Москва, с.48-56. <a href="https://doi.org/10.25296/1997-8669-2020-14-3">https://doi.org/10.25296/1997-8669-2020-14-3</a>
2020	Determination of Contours of Flooded Areas Due to Possible Accident of Zhinvali (Georgia) Earth Dam and Calculation of the Hydrodynamic Parameters of a Destructive Wave at a Dam.	International Conference on Building Energy Conservation, Thermal Safety and Environmental Pollution Control (ICBTE 2020). Brest, Belarus, October 29-30., 12 p. <a href="https://www.e3s-conferences.org/articles/e3sconf/abs/2020/72/contents/contents.html">https://www.e3s-conferences.org/articles/e3sconf/abs/2020/72/contents/contents.html</a> . <a href="https://doi.org/10.1051/e3sconf/202021201004">https://doi.org/10.1051/e3sconf/202021201004</a>
2020	One-dimension mathematical model of energy parameters of a hyper concentrated mudflow	//Annals of Agrarian Science, Volume 18, Number 3, Tbilisi, September, pp. 251-257 <a href="http://journals.org.ge/index.php/aans/issue/view/19">http://journals.org.ge/index.php/aans/issue/view/19</a>
2020	Developing the methods and principles to ensure safety of the population living in the high-risk zone flooded as a result of possible accident of Zhinvali earth Dam	//„Annals of Agrarian Science” Volume 18, Number 4, Tbilisi, November, 10 p, ISSN 1512-1887. <a href="https://journals.org.ge/index.php/aans/issue/view/20/24">https://journals.org.ge/index.php/aans/issue/view/20/24</a>
2021	The outcomes of field survey of sensitive areas at Kobi - Gudauri section of the Georgian military road for the purpose of arranging an innovative snow avalanche construction	//„Annals of Agrarian Science” Volume 19, Number 2, Tbilisi, June, , pp. 181 – 189. ISSN 1512-1887 <a href="https://journals.org.ge/index.php/aans/issue/view/23/28">https://journals.org.ge/index.php/aans/issue/view/23/28</a>

## 8.5 Participation in Scientific Symposiums, Conferences for the last ten years

Years	Title	Name of Event
2021	Estimation of Breaking Risks of Zhinvali Earth Dam Taking Into Consideration the “Capra”	Materials of International conference ICEP - 2021, „Actual scientific, technical and Environmental problems of preserving the Environment”, Brest, BELARUS, ISBN 978-985-493-531-7
2021	Study of the Mathematical Model of Snow Avalanche Kobi -Gudauri Section of the Georgian Military Road on Sensitive Areas	Science and Society, Patterns and Trends of Development. Abstracts of XVI International Scientific and Practical Conference. Vienna, AUSTRIA, pp. 221 – 226. <a href="https://isg-konf.com/science-and-society-patterns-and-trends-of-development/">https://isg-konf.com/science-and-society-patterns-and-trends-of-development/</a>
2020	Development of the debris flow control elastic barrage design methodology	//Construction of Optimized Energy Potential. Czestochowa University of Technology. Vol.9, #2/, Czestochowa, POLAND, pp. 127- 137; <a href="http://www.bozpe.bud.pcz.pl/Current-issue">http://www.bozpe.bud.pcz.pl/Current-issue</a> ; <a href="https://doi.org/10.17512/bozpe.2020.2.16">https://doi.org/10.17512/bozpe.2020.2.16</a>
2020	Elastic mudflow regulating barrage and methodology for its Calculation	DEBRIS FLOWS: Disasters, Risk, Forecast, Protection Proceedings of the 6Th International Conference. (Dushanbe – Khorog, TAJIKISTAN) pp. 88 – 96. “Promotion” LLC, Dushanbe.
2020	Determination of Contours of Flooded Areas Due to Possible Accident of Zhinvali (Georgia) Earth Dam and Calculation of the Hydrodynamic Parameters of a Destructive Wave at a Dam.	International Conference on Building Energy Conservation, Thermal Safety and Environmental Pollution Control (ICBTE 2020). Brest, BELARUS, 12 p. <a href="https://www.e3s-conferences.org/articles/e3sconf/abs/2020/72/contents/contents.html">https://www.e3s-conferences.org/articles/e3sconf/abs/2020/72/contents/contents.html</a> .



		<a href="https://doi.org/10.1051/e3sconf/202021201004">https://doi.org/10.1051/e3sconf/202021201004</a>
2019	Designing and evaluating elastic debris flow-regulating barrage for efficient debris flow regulation	XIII International Conference on Environmental, Biological, Ecological Sciences and Engineering. WASET, Rome, ITALY, pp. 759- 762.
2019	Climate Change and Risk of Land Reclamation in Georgia	Materials of the International Anniversary Scientific and Practical Conference - Problems of the development of agricultural land reclamation and water management complex based on digital technology. Moscow, RUSSIA, pp 261-269
2019	The Research of Water Levels in the Zhinvali Water Reservoir and Results of Field Research on the Debris Flow Tributaries of the River Tetri Aragvi flowing in it..	International Conference on Engineering and Technology. WASET, Rome, ITALY, January 17, pp. 702- 705
2019	Using the “CAPRA” Methodology for Analysis of the Critical State of the Zhinvali Earth Dam and Risks.	International Conference on Economic Geology and Environmental Problems. WASET, Istanbul, TURKEY, January 30-31, pp. 1914- 1918.
2019	The Ecological Awareness Level Arising of the Population Living in the Flood Risk Zone in case of Possible Accident of Zhinvali Land Dam and Designing Precautionary Measures	XIII International Conference on Environmental, Biological, Ecological Sciences and Engineering. WASET, Rome, ITALY, pp. 755- 758.
2019	Mathematical Modeling of Hydrodynamic Processes of Overflow Wave on the Zhinvali Land Dam (Georgia)	International Conference on Ecological and Environmental Engineering. WASET, Paris, FRANCE pp. 1029 - 1032.
2019	Innovative Combined Drainage System And It's Technical-Economical Approval	International Workshop on Improving the Water Use Efficiency and Productivity within Water Energy Food Nexus (CROP). 3rd World Irrigation Forum (ICID), Bali, INDONESIA, pp. 22-29.
2019	Calculation of Impact Action of a Coherent Mudflow Current in the Wave Motion Mode on a Transverse Structure.	9 <sup>th</sup> International Scientific and Technical Conference, Modern Problems of Water Management, Environmental Protection, Architecture and Construction”. Tbilisi, GEORGIA, pp. 210-214.
2019	Assessment of land reclamation risk in Georgia in view of climate change.	Proceedings of the International Scientific-Practical Conference - "Actual Scientific-Technical and Ecological Problems of Land Reclamation", dedicated to the 100th anniversary of land reclamation education in Gorki. Gorki, BELARUSIA, pp. 76-79
2019	Disasters Resilience of Infrastructure to Natural and Human-Caused Hazards.	Innovations in Minimization of Natural and Technological Risks. Abstracts of the First Eurasian Conference “Risk – 2019”. 22-24 May, Baku, AZERBAIJAN, pp. 94.
2019	The Calculation of Maximal and Average Speed of Debris Flow Formed as a Result of Outstretched Water Wave on the Land Dam of Zhinvali	International Conference on Construction and Environmental Engineering. WASET, Barcelona, SPAIN, pp. 1029- 1032.
2018	Forecasting of Water Erosion of Agricultural Decisions in Georgia with Regarding Climate Change.	Book of Abstract of the first International Scientific Conference - Ecological and Environmental Engineering. Krakow, POLAND, 26-29 June, pp. 55.
2018	Forecast of sensitivity of agricultural land reclamation in Georgia to climate change	Ecology of natural environment and scientific and practical aspects of modern agricultural technologies. Proceedings of the International Scientific-Practical Conference, Ryazan. Part II, pp. 46-52.
2017	A New Drainage system to Divert the Ground Water for the Safety of the Foundation of high-rise Buildings	Construction of Optimized Energy Potential. Collected Papers of University, Czestochowa, # 2(20), Czestochowa, POLAND, pp. 101-108
2017	Study of sensitive areas of the Black Sea costal line on the example of Ajara.	Proceedings of the open session and scientific-practical conference of the National Problems Study and Defense Commission of the Georgian National Academy of Sciences. Tbilisi, pp. 137-150
2017	Forecasting the Suspended Solid Sediment Transported in the Headrace of Enguri Dam	18th International Conference on Transport & Sedimentation of Solid Particles. September 11-15, Prague, CZECH REPUBLIC (publishing scoops),

		pp.75-80. <a href="https://icts.files.wordpress.com/2018/01/ts18_75-80_gavardashvili_et_al.pdf">https://icts.files.wordpress.com/2018/01/ts18_75-80_gavardashvili_et_al.pdf</a>
2017	Rationale for the plan to develop and improve the state of the Tbilisi Sea to feed the Upper Samgori irrigation system.	Materials of the International Scientific-Practical Conference on "Water Resources, Hydraulic Engineering Structures and Environment". Part 2, Baku, AZERBAIJAN. pp. 83-87.
2017	Forecast of sensitivity of agricultural land reclamation in Georgia to the climate change.	Materials of the International Scientific-Practical Conference on «Ecological condition of natural environment and scientific and practical aspects of modern resource-saving technologies in agriculture», Part 2, Ryazan, Russia, 16-17 February, pp. 46-53.
2016	Economic efficiency of oilseed production (Tunga) in terms of combined drainage	Materials of the International Scientific-Practical Conference on "Scientific and practical aspects of the technology of cultivation and processing of oil-bearing and essential oil-bearing shrubs". Ryazan, RUSSIA, pp. 57- 64
2016	Ice and rockfall and subsequent mudflow in the Devdorak Gorge (Caucasus, Georgia) in 2014.	IV International Conference "Mudflows: disasters, risk, forecast, protection". Irkutsk, RUSSIA, p. 5.
2016	The Forecast of Land Reclamation Risk Factors In Georgia Considering Climate Change	1st International Scientific Conference, „Waterland-2016“, 06-12 June, Kaunas, LITHUANIA, p. 14. <a href="http://conferencewaterland.weebly.com/">http://conferencewaterland.weebly.com/</a>
2015	Evaluation of Environmental Safety of Small Kazbegi HPP by Considering the Action of Devdorak Glacier Formed in the Bed of the River Kabakhi (Georgia).	//Construction of Optimized Energy Potential, #1(15), Czestochowa University of Technology. Czestochowa, POLAND, pp. 55-60.
2015	Predicting The Vulnerable Areas Of The Mountain Riverbeds By Considering Field And Laboratory Experiments	17th International Conference on Transport & Sedimentation of Solid Particles. Delft, The NETHERLANDS, pp. 75-80
2015	Prediction of the Shapes of a Debris Flow Wave Front by Considering Theoretical and Field Studies	6th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment. Tsukuba International Congress Center, EPOCHAL, TSUKUBA, JAPAN, 4 p. (67 p.)
2015	The Research of the Combine Three Tier Drainage..	International scientific-practical conference use of reclaimed land - Current State and Prospects of Development reclamative farming. Tver, RUSSIA, August 27-28, c 196-201
2015	The Hyper Concentrated Mudflow Structure Dynamic Impact Forecast.	Proceedings of 7th International Conference Contemporary Problems of Architectures and Constructions. Florence, ITALY, 19-21 November, pp. 397- 401.
2015	Predicting The Vulnerable Areas of The Mountain Riverbeds By Considering Field And Laboratory Experiments.	17th International Conference on Transport & Sedimentation of Solid Particles. 22- 25, September, Delft, The NETHERLANDS, pp. 75-80.
2014	Gavardashvili G.V. - New Non-Traditional Design of Anti Mudflow Structure and Method To Calculate it..	Materials International Scientific - Practical Conference Modern Problems of Water Management, Engineering Communication system and Ecology. Baku, AZERBAIJAN, 14-15 April, pp. 217-222
2014	Forecasting of Erosion and Debris Flow Processes for the Energy Supply and Transport Corridors of Georgia Using The Theory of Reliability and Risk.	6th International Conference on Contemporary Problems of Architecture and Construction. VSB-Technical University of Ostrava. Ostrava, CZECH REPUBLIC, 24th -27th June, pp. 71.
2014	Gavardashvili G.V. Zhang P., Wu Y.- Evaluation of The Ecological Processes in the Catchment Basins of the Rivers Inguri (Georgia) And Yangtze (China) and New Environmental Protection Measures.	4thInternational Scientific and Technical Conference, Modern Problems of Water Management, Environmental Protection, Architecture and Construction". Dedicated to the 85 Anniversary of the Water Management Institute. Tbilisi, pp. 91-99
2014	Gavardashvili G.V. - Water resources of the transboundary river Kura and policy of using them.	International Conference – Global and regional Hydropolitical Problems in the Context of International Cooperation and Security. Baku, AZERBAIJAN, November, 25, c. 147-156
2014	Gavardashvili G.V., Iremashvili I.R. - The Evaluation	Proceedings of the Second International Conference

	of Risk-Factors of Population Safety in Transport Corridor of Georgian Military Road.	on Vulnerability and Risk Analysis and Management (ICVRAM), 2014, Liverpool, UNITED KINGDOM. Vulnerability, Uncertainty, and Risk ©ASCE, pp. 427- 435(pub. ASCE).
2013	Prediction Of Flooded Territories In Case Of Possible Breakdown Of The Sioni Earth Dam	International Conference on VAIONT – 1963-2013, Thoughts and analyses after 50 years since the catastrophic landslide. Padua, ITALY, pp. 417 – 423.
2012	Calculation of New Anti-Snow Avalanche Construction	Proceedings of the 4th International Conference on Contemporary Problems in Architecture and Construction. Czestochowa, POLAND, pp. 41- 47

## 9. Organizational Work (Holding of Congresses and Conferences, Editorial Work)

Years	Name
2009 - 2021	Chairman of the Organizing Committee of the International Conference - "Modern Problems of Aquatic Environment, Architecture and Construction", Consequently-Chairman;
2018	5th International Conference DEBRIS FLOWS: Disasters, Risk, Forecast, Protection, Tbilisi. Georgia, Co-redactor.
2011	Member of the Scientific Committee of the First International Conference "Reliability and Vulnerability", USA
2012	"Energy-efficient structures". Member of the Scientific Committee of the Conference, Poland;
2013	Member of the Organization Board of Conference "Transport and Sedimentation", St. Petersburg
2014	Member of the Editorial Board of International Conference "Contemporary Problems of Water Management, Engineering-Communication Systems and Ecology", Baku;
2015	Member of the Organization Board of Conference "Transport and Sedimentation, Netherlands, Delft;

## 10. Inventions (Author's Certificate, Patents)

Years	Name
	<b>USSR Copyrights</b>
1984	#1101499. Flood protection facility. Bul. # 25, Moscow, p. 68. Co-author: V. Tevzadze, E. Kukhalashvili (in Russian).
1985	# 1165736. Open-end springboard-type anti-mudflow structure. Bull. #25. Moscow, p. 101 (in Russian).
1985	# 1191515. Anti-mudflow structure. Copyright, Bull. #42, Moscow, p. 111. Co-authors: E. Kukhalashvili, D. Priuidze (in Russian).
1986	# 1242570. Anti-mudflow structure. Copyright, Bull. #25. Moscow, p. 108 (in Russian).
1989	#1528849. Anti-mudflow device. Copyright Bull. #46. Moscow, p. 123. Co-author: Z. Mamasakhlisi (in Russian).
1990	#1596006. Anti-mudflow device. Copyright Bull. #36. Moscow, p. 223. Co-author: I. Khelai (in Russian).
1991	#1625937. Anti-mudflow structure. Copyright, Bull. #5, Moscow, p. 147. Co-authors: I. Kvirvelia, D. Teliashvili, R. Diakonidze (in Russian).
1992	#1738902. Anti-erosion device. Copyright, Bull. #21, Moscow, p. 177. Co-author: R. Sharangia (in Russian).
1992	#1783042. Anti-erosion structure. Copyright, Bull. #47, Moscow, p.156. Co-author: R. Sharangia (in Russian).
1992	#1789589. Anti-mudflow device. Copyright, Bull. #3. Moscow, p. 237. Co-author: Z. Gvishiani (in Russian).
<b>1996 -2020</b>	<b>Georgian patents: 13</b>

## 11. International and Local Scientific grants

Years	Name
	<b>International Grants:</b>
2018-2021	#(EU, CULTOUR-BSB -117). Development of sustainable cultural tourism in the Black Sea basin.
2009-2011	#FP-7 შპოგგობი #226592 -EU. Black Sea Scientific Network.
2008-2010	#NATO - #982227. Water resources management in transboundary agro-ecosystems of the South Caucasus (Georgia, Armenia, Azerbaijan).
2003-2005	#TA-MOU-01-CA15-011- USA. Study of anti-erosion measures as of Vetiver and other soil-retaining herbaceous barriers.
	<b>National Grants:</b>
2020-2022	#CARYS -19-305. "Innovative Complex Measure Against Snow Avalanche"
2019- 2022	#AR-18-1244. Innovative grant project "Mudflow-regulating elastic barrage"
2018-2022	# FR17_615 "Theoretical study of the safety risks of vulnerable infrastructure in the event of expected

	disasters"
2010-2012	# GNSF/ST09_622_7-105. Assessment of the vulnerability and reliable performance of the hydraulic structures flooding Georgian mountain water reservoirs.
2008-2009	# GNSF/ST07/7-257. Measures to prevent accidents in hydraulic structures, mitigation of damage.
2006-2008	#GNSF/ST06/7-107. Measures to extend the operation of obsolete hydropower plants

## 12. Scientific-Commercial Activity, author's certificate, Implementation

Years	Name
2022	Mudflow-regulating elastic barrage (Funded by: Shota Rustaveli National Science Foundation of Georgia);
2021	Innovative Snow Avalanche structure (Funded by: World Bank);
2020	Carrying out engineering geological surveys to determine the flow of the groundwater in Sixth Betania Turn in Tbilisi by boring 35-40 m deep wells in the area (Funded by: physical entity);
2015	Drafting project estimates for the rehabilitation of drinking water infrastructure in the villages of the secondary zone of Javakheti National Park - Akhalkalaki Region (Funded by: World Bank);
2014	Rehabilitation project of water supply headworks in the village of Bodbiskhevi, Sighnaghi Municipality (Funded by: Sighnaghi Municipality);
2014	Drafting project estimates for the rehabilitation of drinking water infrastructure in the villages of the secondary zone of Javakheti National Park – Ninotsminda Region (Funded by: World Bank);
2011	Project of engineering-rehabilitation measures from the head of the River Kumi (Black Sea basin) to the second dam (funded by: Cartu Bank and Tskaltubo Municipality).
2009	Designing stone piles to protect the territory of village Chalistavi of Tsageri Region (Black Sea basin) against the floods occurring on the Tskhenistskali River. (Funded by: the Swiss Agency for Development and Cooperation (SDC));
2008	Assistance to the Lentekhi board in disaster prevention zones. (Funded by: the Swiss Agency for Development and Cooperation (SDC));
2007	Developing the project to regulate the Monastic Gorge bed near Shiomgvime Monastery (Funded by: Bank Republic).
2007	Project to restore the eroded slopes/pastures near village Jvarbosli (Mtatusheti) (Funded by: World Bank);
<b>1987-2019</b>	32 business support and scientific commercial projects have been developed

## 13. Other Activities

	Name	Years
<b>Scientific leadership of dissertation and MA (qualification) theses</b>	Scientific Adviser of 9 candidate and doctoral dissertation theses; Scientific Adviser of 6 MA theses, including 2 theses defended abroad.	2000 - 2022
<b>Participation in international, state and regional programs and projects</b>	Vice-Chairman of the Georgian National Commission for Irrigation and Drainage	2019 წ. - To present
	Director of the Environmental Protection EcoCenter, the organization with the consulting company of the UN Economic and Social Council (ECOSOS)	2010 წ. - To present
	Member of the Scientific-Technical Council for Emergency Management of the Ministry of Internal Affairs of Georgia	1990 წ. - To present
	Chairman of the State Subcommittee on Combating Natural Disasters	2002 – 2004
	Chairman of the State Expert Commission for Rehabilitation of Tezi-Okami Irrigation System	2006
	Environmental Impact Assessment Report of Kakheti Small Hydropower Plant. Environmental expert and chairman of the state expert commission	2007
	Member of the State Commission for Assessing the Environmental Damage caused by the hostilities in Georgia in August 2008	2008 – 2010
	Environmental Impact Assessment Report of Shaori HPP. Chairman of the State Expert Commission.	2008
	Member of the State Commission for Planning of the Vere Gorge following the natural disasters in Tbilisi on June 13, 2015	2015
	Chairman of the State Commission for Environmental Impact Assessment of Namakhvani HPP Cascade	2016

	Member of the Civil Society Association, ASCE, USA	2015
	Agricultural Expert, USAID, USA	2014
	Member of the International Flood Association, Russia.	2011
<b>scientific-engineering experience</b>	<b>Expert in more than 100 hydromelioration and environmental impact assessment projects</b>	<b>1982 - 2017</b>
<b>Expert and project experience</b>	<b>Chief Engineer of more than 300 projects of irrigation and drainage systems, environmental protection facilities and structures</b>	<b>2000 - 2022</b>

#### 14. Awards and Prizes, Honorary Title

<b>Date</b>	<b>Name of Awards, Prizes, Honorary Title</b>
2019	Diploma of the Georgian National Academy of Sciences on the occasion of the World Science Day established by UNESCO for scientific achievements in the field of "hydromelioration", Tbilisi, Georgia.
2018	Medal of the Ukrainian Academy of Agricultural Sciences for Outstanding Contribution to Ukrainian-Georgian Science, Kiev, Ukraine.
2014	Honorary Professor of Central China Normal University (Wuhan).
2013	Order of Honor of the President of Georgia, June 21, 2013. Ordinance #21/06/01.
2012	Chestokhova Polytechnic University Diploma and Silver Medal, Chestokhova, Poland.
2011	Diploma and Silver Medal of the Wroclaw University of Life Sciences. Wroclaw, Poland.
1987	Bronze Medal of International Exhibition, Moscow.
1985	Diploma Holder of the World Exhibition of Young Inventors, Plovdiv, Bulgaria

#### 15. Family Status

Married
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