Georgian National Academy of Sciences

Personal Data (CV)

Surname	Matcharashvili	**First Name**	Teimuraz
Address (work, home)	I, Alexidze str; 95, Vazha-Pshavela ave.	**Date and place of birth**	25.09.1956. Sachkhere, Georgia
Citizenship	Georgian	**Telephone number(s)**	557169410; 2335514; 2545740;
E-mail	teimuraz.matcharashvili@tsu.ge		

3. Education

Education	Institution	Learning Time
Secondary	Public School 1, Chiatura, Georgia	1964-1974
Higher	TSU, Department of Physics, Tbilisi, Georgia	1974-1979
Postgraduate study, doctoral candidacy	TSMU Tbilisi, Georgia	1980-1983

4. Knowledge of Languages

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

5. Scientific or Academic Degree and Rank

	Title of the thesis	Date of conferment	Degree
Ph.D. thesis	Thermodynamic aspects of contractility under different influences	1989	Kandidat of Sci.(PhD)
Doctoral thesis	Nonlinear analysis of dynamical complexity of seismicity in Caucasus	2003	Doctor of Physics and Mathematics
Academician Doctor			
Professor			
Corresponding Member of the		2024	

Academy			
Member of the Academy			

6. Work Experience

Date	Institution	Position
Since 1995	M. Nodia Institute of Geophysics	Researcher
Since 2005	Head of the Department of Dynamics of Geophysical Fields and Computational Mathematics	Leading researcher
2010-2024	The Institute of Earth Sciences, Ilia State University	Researcher
2000-2010	Prometheus Inc. Newport, USA.	consultant
Since 2016	Heliyon	Associate Editor, https://www.cell.com/heliyon/earth-science/editors

6.1 Teaching Activity

Date	Institution	Position
2003-2023	Georgian Technical University, Department of Informatics	Invited professor

6.2 Work Abroad

Form of activity	Date	Place and Institution
Delivering a course of lectures at foreign higher education institutions	2016	Earthquake reserach Institute, Tokyo
Long-term academic mission to research institutions	2004, 2010	Three month research missions in the Institute of Physics of Oldenburg University, Germany
Long-term academic mission to research institutions	2016	University of Tokyo, Earthquake research Institute

7. Sphere of Scientific Interests

Quantitative and qualitative analysis of dynamical processes
Investigation of complex geophysical processes (Geocomplexity)
Analysis of time series of different natural and technical processes based on the methods of theory of complexity
Linear and nonlinear analysis of seismological, geomagnetic, atmospheric as well as earthquake laboratory model data sets

8. Publications (Total number, indicating the Citation Index (*number*))

About 300 works published in different fields of physics including 74 articles in referred journals indexed in SCOPUS data base. To 2024 there are 593 citations in SCOPUS, Author h-index h=16; In Web of Science 253 citings and h=13.

8.1 Monographs

Years	
2000	Complexity in natural structures and dynamics

8.2 Principal Papers (no more than 50)

Years	
2023	Complexity in Geophysical Time series of Strain/Fracture at Laboratory and Large Dam Scales: Review. Entropy 2023, 25, 467
2022	The Classification Analysis of Variability of Time Series of Different Origin, in Computational Intelligence-based Time Series Analysis , River Publishers, 2022, pp.19-36.
2021	Changes in the dynamics of seismic process observed in the fixed time windows; case study for southern California 1980–2020 , Physics of the Earth and Planetary Interiors 319 (2021) 106783

2019	Mahalanobis distance-based recognition of changes in the dynamics of a seismic process, Nonlin. Processes Geophys., 26, 291–305, 2019.
2018	Simple statistics for complex Earthquake time distributions, Nonlin. Processes Geophys., 25, 497–510, 2018
2017	Analysis of long-term variation of the annual number of warmer and colder days using Mahalanobis distance metrics— A case study for Athens, Physica A 487 (2017) 22–31
2016	Variation of the scaling characteristics of temporal and spatial distribution of earthquakes in Caucasus, Physica A 449 (2016) 136-144.
2015	Influence of High Energy Electromagnetic Pulses on the Dynamics of the Seismic Process Around the Bishkek Test Area (Central Asia), Pure. Appl. Geophys.172 (2015), 1893-1908
2014	Dynamical Patterns in Seismology, in Recurrence Quantification Analysis: Theory and Best Practices (Understanding Complex Systems), Charles L. Webber Jr. Norbert Marwan (Eds). 2014, pp 291-334
2000	Nonlinear analysis of magnitude and interevent time interval sequences for earthquakes of Caucasian region, Nonlinear Processes in Geophysics, 2000, 7, 9-19.

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

Years	

8.4 Electronic Publications

Years	Title	Address of Source

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

Years	Title	Name of Event
2024	Analysis of dynamics of the dam body tilts and the displacement of foundation of high arch dam; case study for engury dam, Georgia	Dynamics Days Europe, Bremen, Germany, 2024.
2020	Quantifying regularity of the Internet Interdomain Routing based on Border Gateway Protocol (BGP) data bases	International Conference on Electrical, Communication, and Computer Engineering (ICECCE), Istanbul, Turkey, 2020
2019	Dynamical changes of foundation displacements and local seismic activity occurred during construction of Enguri arch dam	European Association of Geoscientists and Engineers, EAGE, Hague, Netherlands, 6-1 September, 2019.
2019	Dynamical characteristics of earthquakes time distribution	Statistical Physics of Complex Systems (SPCS19), Stockholm, Sweden, 7-11 May, 2019.
2018	Variability in the degree of regularity of temporal distribution of Earthquakes in south California	36th General Assembly of the European Seismological Commission (GA ESC), Valletta, Malta, 2018

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

Years	Name
2006	Co-director and invited lecturer of NATO ASI "Imaging for Detection and Identification", 23 July - 5 August, 2006, Il Ciocco, Italy.
2008	Co-director and invited lecturer of Spatial Planning as a Strategy for Mitigation and Adaptation to Natural Hazard, 3-9 March 2008, Santiago de Compostela, Spain.

10. Inventions (Author's Certificate, Patents)

Years	Name

11. International and Local Scientific grants

Years	Name
2022-2025	Shota Rustaveli National Science Foundation (SRNSF), grant FR-21-7273, Spatial and temporal analysis of

	earthquakes distribution based on International and Enguri area seismic data bases.
2017-2020	Shota Rustaveli National Science Foundation (SRNSF), grant 217838 "Investigation of dynamics of earthquake's temporal distribution"
2012-2013	Investigation of large dam induced changes in geophysical phenomena: the case study of Enguri dam International Test Area, Georgia, CNR-RNSF
2009-2011	The first step to creation of real time geotechnical telemetric monitoring system of large dams: the case of the Enguri dam International Test area. STCU-5016.
2006-2008	ISTC A-1418, Open network of Scientific Centers for Mitigation Risk of Natural Hazards in the Southern Caucasus and Central Asia.

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

Years	Name

13. Other Activities

	Name	Years
Supervision of Theses and Masters work	Tea Khutsishvili, dissertation: investigation of scale invariance and nonlinear structure of some highdimensional dynamical systems.	2009
	Nato Kutaladze, dissertation: Features of spatial and temporal distribution of extremal temperatures and precipitation in Georgia	2006
Participation in International, State and Regional Programs		

14. Awards and Prizes, Honorary Title

Date	Name of Awards, Prizes, Honorary Title
2023	Awarded by Georgian National Academy of Sciences for scientific achievements
2013	Order of Honour
2009	Winner of Award of Georgian National Academy of Sciences

15. Family Status

Spouse	Manana Janiasvili
Daughter	Tamar Matcharashvili