# CURRICULUM VITAE Associate Professor, Dr. Mariam Elizbarashvili



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#### **EDUCATION**

- **Dr. Hab. (Doctor of Science) in Geography**, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia, June 25, 2004.
- Ph.D. (Candidate of Science) in Geography, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia, June 11, 1999.
- MS (equivalent) in Physics, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia, June 29, 1995.

## **WORK EXPERIENCE**

- <u>2012 to date</u> **Associate Professor**, Faculty of Exact and Natural Sciences, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia.
- <u>2006 2012</u> Assistant Professor, Faculty of Exact and Natural Sciences, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia.
- 2010 2013 Associate Researcher, Institute of Earth Sciences, Ilia State University, Tbilisi, Georgia.
- <u>2006 2012</u> **Main Scientific researcher**, Climatology and Agrometeorology Department, Institute of Hydrometeorology, Georgian Technical University.
- <u>2005 2006</u> Invited lecturer, Telavi State University, Telavi, Georgia.
- 2005 2006 Head of Climatology laboratory, Institute of Hydrometeorology, Tbilisi, Georgia.
- <u>2001 2005</u> Senior Scientific researcher, Climatology laboratory, Institute of Hydrometeorology, Tbilisi, Georgia.
- <u>1999 2001</u> Scientific researcher; Climatology laboratory, Institute of Hydrometeorology of Georgia Academy of Sciences
- <u>1995 1999</u> **Assistant,** Climatology laboratory, Institute of Hydrometeorology of Georgia Academy of Sciences

# **PROJECTS**

#### 01.02.2022-31.05.2022

**Project coordinator**, Development of Regional Climate Modeling and Assessment Capability in Georgia. Austria's Agency for Education and Internationalization, 0eAD-GmbH.

## 14.09.2021 – 14.09.2022

Scientific head of the Project; Classification/zoning of roads connecting the border settlements in the Central Caucasus (Tbilisi-Gudauri-Larsi and Tbilisi-Zhinvali-Shatili) in terms of dangerous natural phenomena and creation of its geographical information system. Shota Rustaveli National Science Foundation of Georgia.

## 03.2020 - 2023

**Scientific head of the Project**; Assessing the Projected Impacts of Climate Change in Georgia Using a Very High-Resolution Climate Model. Shota Rustaveli National Science Foundation of Georgia.

#### 03.2020 - 2023

**Project coordinator**; Develop a geographical information system to evaluate accessibility to Medical Services in Kvemo Kartli Region. Shota Rustaveli National Science Foundation of Georgia.

# 03.2019 -12.2021

**Co-scientific leader**; Impact of climate change on glaciers and associated risks in the Georgian Caucasus. Research and Innovation of Romania, (IFA).

#### 05.2019 - 05.2020

Researcher; Urban Heat Island in Bulgaria - Causes and Tendencies. Sofia University Scientific Fund.

# 10.2018 - 30.09.2019

**Scientific head of the Project**; Actual Problems of Landscape Sciences: Environment, society, politics. Shota Rustaveli National Science Foundation of Georgia.

## 01.2017 -05.2019

**Project coordinator**; Georgian-Norwegian partnership in climate teleconnection and prediction. Norwegian center for international cooperation in education.

#### 09.2018 - 03.2019

**Scientific consultant**; Climate Change and Sustainable Development. Shota Rustaveli National Science Foundation of Georgia.

#### 10.2015 - 05.2016

**Scientific head of the Project**; Energy, Environment and Sustainable Development. Shota Rustaveli National Science Foundation.

# 09.2011 - 08.2016

**Researcher**; Solar and Space Weather Network of Excellence. FP7.

## 06.2015-12.2015

**Scientific head of the Project**; Population Attitude to Ecological Problems and Study of Drinking Water Quality in Telavi City. Shota Rustaveli National Science Foundation.

# 05.2015-12.2015

**Scientific head of the Project**; Public attitudes towards environmental problems (On the example of Mestia Municipality). TSU, Faculty of Exact and Natural Sciences.

## 01.2013-05.2013

**Scientific head of the Project**; Modeling of Extreme Temperature and Precipitation over Georgia for the Sustainable Development of the Country. US Department of State USA.

## 01.2013-10.2013

**Scientific head of the Project**; Extreme Weather and Climate Events in the Southern Caucasus - Black Sea Region. Shota Rustaveli National Science Foundation, ICTP.

## 12.2012 - 05.2013

**CO-Scientific head of the Project**; Frequency, Duration and Intensity of Extreme Weather and Climate Events Over Georgia: Past, Current and Future Scenarios. Shota Rustaveli National Science Foundation of Georgia.

#### 01.2012-04.2012

**Scientific head of the Project**; Study and Modelling of Extreme Climate Events in Georgia by Regional Climate Model (RegCM). Shota Rustaveli National Science Foundation.

# 11.2011-10.2014

**Researcher**; Analysing multiple interrelationships between environmental and social processes in Mountainous regions of Georgia – Interdisciplinary research to foster sustainable land use, land development and quality of life. Volkswagen Foundation.

## 02.2011 - 08.2011

**Scientific head of the Project**; Development of a new MS program: Climate Change and Sustainable Development with the Emphasis on the Southern Caucasus. Civilian Research and development Foundation (CRDF).

## 10.2010-03.2012

**Researcher**; Radon exhalation state in Tbilisi and an estimation of its radiological influence on the population. The Science and Technology Center in Ukraine, Shota Rustaveli National Science Foundation.

## 10.2010-12.2012

**Researcher**; The Role of Social Capital in Rural Community Development in Georgia. Academic Swiss Caucasus Net (ASCN).

#### 05.2010-12.2010

**Researcher**; Ecological Education for School-Children and Environment Monitoring. Embassy of Switzerland in Georgia.

## 01.2009-11.2009

**Scientific head of the Project**; Popular science lectures for public schools (geography, ecology, geology). Georgia National Science Foundation.

# 01.2008-12.2010

**Scientific head and project manager**; Complex ecological and micro-climate research of Ureki-Shekvetili health-resort zone. Shota Rustaveli National Science Foundation.

Author of more than 100 papers, monographs and books. Google Scholar Citations 446, h-index 9, g index-13.

## **SELECTED PUBLICATIONS**

- Multi-sensor remote sensing to map glacier debris cover in the Greater Caucasus, Georgia, Iulian-HoriaHolobâcă, Levan G. Tielidze, Kinga Ivan, Mariam Elizbarashvili, Mircea Alexe, Daniel Germain, Sorin Hadrian Petrescu, Olimpiu Traian Pop and George Gaprindashvili, 2021, Journal of Glaciology (IF).
- Blizzards in Mountain Regions of Georgia, E. Sh. Elizbarashvilia, M. E. Elizbarashvili, Sh. E. Elizbarashvilia, M. G. Pipiya, and L. G. Kartvelishvili, Russian Meteorology and Hydrology, 2020, Vol. 45, №1, pp. 58–62 (IF).
- Investigation of the Frequency of Occurrence of the Most Dangerous Weather Events for Georgia E.Sh. Elizbarashvili, M.E. Elizbarashvili, Sh.E. Elizbarashvili, Russian Meteorology and Hydrology, 2020, Vol. 45, № 10, pp. 727–732 (IF).
- Multidisciplinary approach to sediment connectivity between debris-flow channel network and the Dolra River, Mazeri Valley, Southern Caucasus, Georgia, Daniel Germain, Ionela-Georgiana Gavrilă, Mariam Elizbarashvili, Olimpiu Traian Pop, Geomorphology, Volume 371, 15 December 2020, 107455 (IF).
- Characteristics of Frost Days in the Mountain Regions of Georgia, E.Sh. Elizbarashvili, M.E. Elizbarashvili, Sh.E.Elizbarashvili, N.B.Kutaladze, N.M.Gogiya. Russian Meteorology and Hydrology, Vol. 44, No 2, pp. 145-151, 2019 (IF).
- Tropical Nights in Georgia, E.Sh. Elizbarashvili, M.E.Elizbarashvili, Sh.E.Elizbarashvili, N.B.Kutaladze, N.Z.Chelidze,
   V.E.Gorgisheli, Russian Meteorology and Hydrology, Vol.43, Issue 9, pp. 625-631, 2018 (IF).
- Mountain environment and population in Georgia: case study of Upper Svaneti, Mariam Elizbarashvili, Tamar Khardziani, Roman Maisuradze, Marika Tatishvili. International Journal of Sustainable Development and World Ecology, Vol. 25, Issue 4, pp. 362-370, 2018 (IF).
- Long-term Changes in the Number and Temperature of Hot Days in Georgia under Global Warming, E.Sh. Elizbarashvili, M.E.Elizbarashvili, N.B.Kutaladze, Sh.E.Elizbarashvili, N.Z.Chelidze. Russian Meteorology and Hydrology, Vol. 42, Issue 10, pp. 665-670, 2017 (IF).
- Georgian climate change under global warming conditions, MElizbarashvili, E. Elizbarashvili, M. Tatishvili, Sh. Elizbarashvili, R. Meskhia, N. Kutaladze, L. King, I. Keggenhoff, T.Khardziani. Annals of Agrarian Science 15, 17-15, 2017.
- Mountain Regions, Population and Their Ecological Problems: Case Study of Mestia Municipality, T.Khardziani,
   M.Elizbarashvili, R.Maisuradze, K.Bilashvili, Z.Seperteladze, T.Khuntselia, T. Eradze, E.Davitaia, N.Jamaspashvili,
   M.Sharashenidze, G.Dvalashvili, T.Gordeziani (2017). Journal of Environmental Biology, 38(5(SI)):1057-1060 (IF).
- Spatiotemporal variations in climate moisture indices in Georgia under global warming, E.Sh. Elizbarashvili, M.E. Elizbarashvili, N.B. Kutaladze, I. Keggenhoff, Sh. E. Elizbarashvili, B.M. Kikvadze, N.M. Gogia. Russian Meteorology and Hydrology, Volume 41, Issue 4, pp. 261-267, 2016 (IF).
- Geography and dynamics of some temperature indices for assessing the climate change in Georgia. E.Sh.Elizbarashvili, M.E.Elizbarashvili, N.Kutaladze, I.Keggenhoff, B.M. Kikvadze, N.M. Gogia. Russian Meteorology and Hydrology, Volume 40, Issue 1, pp. 39-45, 2015 (IF).
- Recent changes in Georgia's temperature means and extremes: Annual andseasonal trends between 1961 and 2010,
   I. Keggenhoff, M. Elizbarashvili, L. King. Weather and Climate Extremes, Volume 8, pp.34–45, 2015.
- Heat Wave Events over Georgia Since 1961: Climatology, Changes and Severity, Ina Keggenhoff, Mariam Elizbarashvili, Lorenz King, Climate, 3(2), 308-328; 2015.
- Trends in daily temperature and precipitation extremes over Georgia, 1971–2010, I. Keggenhoff, M. Elizbarashvili, A. Amiri-Farahani, L. King. Weather and Climate Extremes, Volume 4, pp. 75–85, 2014.
- Hailstorms in the Territory of Georgia, E.Sh.Elizbarashvili, A.G. Amiranashvili, O.Sh. Varazanashvili, N.S. Tsereteli, M.E.
   Elizbarashvili, S.E. Elizbarashvili, M.G. Pipia. European Geographical Studies Vol. (2), № 2, pp. 55-69, 2014.
- Climate Indices for the Moistening Regimen in the Territory of Georgia amidst Global Warming, E.Sh.Elizbarashvili, N.B. Kutalaze, I. Keggenhoff, M.E. Elizbarashvili, B.M. Kikvadze, N.M. Gogia. European Researcher Vol. (66), № 1-1, pp.102-107, 2014.
- Droughts in Georgia, E.Sh.Elizbarashvili, O.Sh. Varazanashvili, N.S. Tsereteli, M.E. Elizbarashvili, Sh.E. Elizbarashvili,
   V.E. Gorgisheli. European Researcher, Vol. (68), № 2-1, pp. 308-316, 2014.

- Hurricane winds on the territory of Georgia, E.Sh. Elizbarashvili, O.Sh. Varazanashvili, N.S. Tsereteli, M.E. Elizbarashvili. Russian Meteorology and Hydrology, Volume 38, Issue 3, pp 168-170, 2013 (IF).
- Creation of High-resolution Climatic Grid Datasets for the Territory of Georgia, E.Sh.Elizbarashvili, M.R.Tatishvili, M.E.Elizbarashvili, Sh.E.Elizbarashvili, R.S.Meskhia, V.E.Gorgisheli, K.A. Lashauri. Russian Meteorology and Hydrology, Volume 38, Issue 9, pp.633-637, 2013 (IF).
- Climate Change in Georgia under Global Warming Conditions, E.Sh. Elizbarashvili, M.R. Tatishvili, M.E. Elizbarashvili, R.Sh. Meskhia, Sh.E. Elizbarashvili. monograph, p.128. Tbilisi,2013.
- Model Simulation Study of Temperature and Precipitation Extremes in Georgia. Elizbarashvili, N.Meskhidze, B.Gantt,
   D.Mikava. International Multidisciplinary 12th Scientific GeoConference SGEM2012, "Modern Management of Mine Producing, Geology and Environmental Protection". Conference Proceedings, Volume IV, pp.355-362, 2013.
- Natural hydrometeorological disasters, their causes and prevention measures, Marika Tatishvili, Elizbar Elizbarashvili,
   Shalva Elizbarashvili, Ramaz Meskhia, Mariam Elizbarashvil; The Macro theme Review; A multidisciplinary journal of Globalmacrotrends, Volume 2, Issue 1, pp. 148-154, 2013.
- Climate and Agro-climatic Atlas of Georgia. Tbilisi. Co-author Elizbarashvili M.E., 2012.
- *Icing of Wires in Mountain Areas of Georgia*. E.Sh. Elizbarashvili, O.Sh. Varazanashvili, N.S. Tsereteli, **M.E. Elizbarashvili,** M.N. Kaishauri. Russian Meteorology and Hydrology, Vol. 37, № 8, pp. 567-569, 2012 (IF).
- Dangerous Fogs on the Territory of Georgia, E.Sh. ElizbarashviliO.Sh. Varazanashvili, N.S. Tsereteli, M.E. Elizbarashvili, Sh.E. Elizbarashvili. Russian MeteorologyandHydrology, Vol. 37, № 2, pp.106–111,2012 (IF).
- Light Frosts in the Freeze-free Period in Georgia, E.Sh. Elizbarashvili, O.Sh. Varazanashvili, M.E. Elizbarashvili, N.S. Tsereteli.Russian Meteorology and Hydrology, Vol.36, № 6, pp.399–402, 2011 (IF).
- Droughts in Eastern Georgia, M.Elizbarashvili, E.Elizbarashvili, V.Gorgisheli, 11th International Multidisciplinary Scientific GeoConference "Modern Management of Mine Producing, Geology and Environmental Protection". Conference Proceedings Volume II. pp. 1229-1231, 2011
- Temperature Regime of Some Soil Types in Georgia, E.SH.Elizbarashvili, T.F.Urushadze, M.E. Elizbarashvili, Sh.E.Elizbarashvili, M.K.Schaefer, Eurasian Soil Science. Vol. 43, № 4, pp. 427-435, 2010 (IF).
- Georgia in Transition: Experiences and Perspectives. PETER LANG (Frankfurt am Main, Berlin Bern Bruxelles New York Oxford Wien), Germany. Co-author M.E. Elizbarashvili, 2009.
- Hydro climatic resources and Main Functions of the Caucasus Natural Landscapes, E.SH.Elizbarashvili,
   M.E.Elizbarashvili. Russian Academy of Sciences, Journal of Geography, № 3, pp.110-113, 2010.
- Climate change and its consequences in Georgia, M.Elizbarashvili, E.Elizbarashvili, R.Meskhia, R.Maisuradze.
   International Multidisciplinary Scientific GeoConference SGEM 2010 "Modern Managment of Mine Producing, Geology and Environmental Protection", Conference Proceedings Volume II., pp. 221-227, 2010.
- Specific Features of Soil Temperature Regimes in Georgia, E.Sh. Elizbarashvili, M.E. Elizbarashvili, R.V.Maglakelidze, N.G.Sulkhanishvili, Sh.E.Elizbarashvili. Eurasian Soil, volume 40, Number 7, pp.761-765. 2007.
- Soil-climatic Zoning of Georgia, E.Sh. Elizbarashvili, Z.B.Chavchanidze, M.E.Elizbarashvili, R.V. Maglakelidze, N.G.Sulkhanishvili, Sh.E.Elizbarashvili. Eurasian Soil Science, volume 39, Number 10, pp.1062- 1065., 2006 (IF).
- Specific Features of Soil Temperature Regimes in Georgia, E.Sh. Elizbarashvili, M.E. Elizbarashvili, R.V. Maglakelidze, N.G. Sulkhanishvili, Sh.E. Elizbarashvili. Eurasian Soil Science, volume 40, Number 7, pp.761-765. 2007 (IF).
- Soil-climatic Zoning of Georgia, E.Sh. Elizbarashvili, Z.B.Chavchanidze, M.E. Elizbarashvili, R.V. Maglakelidze, N.G. Sulkhanishvili, Sh.E. Elizbarashvili. Eurasian Soil Science, volume 39, Number 10, pp.1062-1065., 2006 (IF).

# PARTICIPATION AT THE CONFERENCES AND OTHER SCIENTIFIC EVENTS

 The 2nd International Conference on Environmental Science and Applications (ICESA'21), Creation of Geographical Information System for Highways of Kvemo Kartli (Georgia), Virtual Conference - November 21-23, 2021.

- **EGU General Assembly Conference**, Dendrogeomorphic reconstruction of debris-flow activity in Mazeri Valley, Greater Caucasus, Georgia, online, 19–30 Apr. 2021.
- AGU Fall Meeting 2021, High-resolution Climate Simulation Using Double-nesting Method for Georgia, New Orleans, LA&Online Everywhere, 13-17 December, 2021.
- The 2nd International Conference on Environmental Science and Applications (ICESA'21), Dangerous and Adverse Weather Events in Kvemo Kartli (Georgia), Virtual Conference November 21- 23, 2021.
- The 2nd International Conference on Environmental Science and Applications (ICESA'21), Simulation of Temperature and Precipitation Climatology for Georgia using RegCM4, Virtual Conference - November 21-23, 2021.
- **22nd EGU General Assembly,** Tree-ring dating of colonized moraine surfaces in deglacierized areas of Greater Caucasus Mountains, online 4-8 May, 2020.
- Caucasus Mountain Forum 2019, Modeling of Stochastic Process of Implementation of Various Combinations of Dangerous Meteorological Phenomena in the Mountains of the Caucasus, Ankara, Turkey, 30 October-1 November, 2019.
- Actual Problems of Landscape Sciences: Environment, society, politics, INVESTIGATION OF PRECIPITATION
  DEPENDENCE ON TEMPERATURE UNDER THE GLOBAL WARMING ON THE TERRITORY OF GEORGIA BASED
  ON HIGH RESOLUTION 1936-2011 GRID DATA SET, Tbilisi, Georgia, 9-13 September, 2019.
- Actual Problems of Geography, Possible Impact of Global Warming on the Shifting of Soil Boundaries in Mountains (Trialeti Range Eastern Part Case Study), Tbilisi, Georgia, 5-6 November, 2019.
- International Scientific Conference Geoparks and Modern Society, Geopark Creation Potential in Kazbegi Municipality, Georgia, Belogradchik, Bulgaria, 11-13 October, 2018.
- Challenges in meteorology 6, Advanced technology for solving the meteorological challenges; Extreme Atmospheric Precipitations on the Territory of Georgia, Zagreb, Croatia, 15-16 November, 2018.
- Ninth ICTP Workshop on the Theory and Use of Regional Climate Models, ICTP Trieste, Italy, 12-28 May-8
  June, 2018.
- The 4<sup>th</sup> International Geography Symposium GEOMED 2016, Mountain Regions, Population and Their Ecological Problems (Case Study of Mestia Municipality), Kemer, Turkey, 23-26 May, 2016.
- **Air and Water component of the environment,** Chemical composition of irrigation, Collector-and-drainage and ground waters of the lower Alazani valley, Cluj-Napoca, Romania, 25-17 March, 2016.
- International conference dedicated to the 140th anniversary of Academician Alexandre Javakhishvili; Summer Heat Waves over Georgia between 1961 and 2010: Climatology, Changes and Large-Scale Patterns, Tbilisi, Georgia, 22-23 October, 2015.
- The First SDSU Georgia STEM WORKSHOP on Nanotechnology and Environmental Sciences; The main features
  of climate change in Georgia, Tbilisi, Georgia, 5 September, 2015.
- **Seventh ICTP Workshop on Theory and Use of Regional Climate Models;** Modeling of Climate Indices for the Temperature Regimen in the Territory of Georgia by using RegCM4, ICTP Trieste, Italy, 12-23 May, 2014.
- 6th Georgian German School and Workshop in Basic Science; Climate Change Tendencies in Georgia under Global Warming Conditions, Tbilisi, Georgia, 6 11 July, 2014.
- International Conference on Environment and Renewable Energy; The Temporal and Spatial Structures of Temperature Indices of Climate Change over Georgia, Paris, France, 7-8 May, 2014.
- **14th International Multidisciplinary Scientific Geoconferences;** Temperature Indices of Climate Change in Georgia, Albena, Bulgaria, 17-26 June, 2014.
- The 3rd International Geography Symposium; Regional Climate Change in Georgia Under Global Warming Conditions, Kemer, Antalya, Turkey, 10-13 June, 2013.
- Participant: "International Training Seminar", Regional Meteorological Training Centre WMO in Russian Federation, 14-18 October, 2013.
- 9th Turkey-Romania Academic Seminar, Antalia-Karabuk-Safranbolu- Amastra, Turkey, 10-19 June, 2013.
- World Climate 2012, World Conference on Climate Change and Humanity; High resolution 1936-2008 year monthly
  gridded temperature and precipitation data set for use in global climate change assessment for Georgia, Vienna,

- Austria, 14-15 June, 2012.
- 12th International Multidisciplinary Scientific GeoConference SGEM 2012 "Modern Managment of Mine Producing, Geology and Environmental Protection"; Model Simulation Study of Temperature and Precipitation Extremes in Georgia, Albena, Bulgaria, 17-23 June, 2012.
- Sixth ICTP Workshop on the Theory and Use of Regional Climate Models; Extreme Precipitation and Temperature Events in Georgia Using Regional Climate Model, Trieste, Italy, 7-18 May,2012.
- **5th Georgian German School and Workshop in Basic Science;** Climate Change, Batumi, Georgia, 6-10 August, 2012.
- 11th International Multidisciplinary Scientific GeoConference "Modern Managment of Mine Producing, Geology and Environmental Protection"; Current Trends of Climate Change in the Kazbegi Region, Greater Caucasus, Georgia, Albena, Bulgaria, 19-25 June, 2011.

#### **LANGUAGES**

Georgian (native), English (very good), Russian (good)

# MEMBERSHIP, HONORS, AWARDS AND OTHER

- Since 2019 Corresponding Member of Georgian Engineering Academy;
- AGU member;
- EGU member;
- 2018, 2019 under Erasmus + mobility lecturing at Sofia University, Bulgaria;
- 2012-2013 Fulbright Fellowship (US Department of State, USA);
- 2012 Jan. 2012 April State Science Grant for the Young Researchers Internship Abroad (Rustaveli National Science Foundation, Tbilisi, Georgia for the internship in NCSU, USA);
- 2010 Jan. 2010 May Junior Faculty Development Program in the field of Environmental Studies at the University of California, Berkeley, CA (US Department of State, USA);
- 2010, 2011, 2012, 2013, 2014, 2016 Researcher travel award for the attending Conferences, Shota Rustaveli National Science Foundation;
- 2012, 2014, 2108 ICTP travel awards for the attending workshops;
- 2004 East European Scholar at The University of Oxford, Oxford University and "Open Society Georgia";
- 2003 -Youth award of the Georgian Geophysics Society and the Institute of Geophysics of the Academy of Sciences of Georgia;
- 2000 Second-degree presidential stipend for young scientists;
- 1999 Third-degree presidential stipend for young scientists;
- Since 2010 SSN holder (USA).