

## Konstantine Chkhikvadze Autobiography in Chronological order (CV)



Name:	Konstantine
Surname:	Chkhikvadze
Scientific title:	Doctor of technical sciences
Birth place:	Tbilisi, Georgia

### **Education:**

1969-1973 – Construction Engineering Faculty of Polytechnical Institute of Georgia

1976-1980 – Postgraduate student of Institute of Structural Mechanics and Earthquake Engineering of Academy of Sciences of Georgia

### **Design experience**

Since 2005 I am working in LTD “Monoliti”, which carries out design of the buildings of industrial, civil, social and engineering function.

My key specialization is to create structural analysis models of the buildings, analysis and interpretation of the analysis results.

The following computer structural analysis programs are used:

LIRA-SAPR, ANSYS, NASTRAN, FEEMAP, SAP2000, NONSAP, SCAD-OFFICE, MONOMAX, GEO\_SLOPE, GEOSOFT etc.

I have carried out the structural design of numerous buildings and structures, including: Railway station in the territory near Tbilisi Airport, Dwelling complex on the territory of “Academ City”, Dwelling complex of Didi Digomi, Sport palace in c. Kutaisi, Hotel “Magnolia” in c. Batumi, Dwelling complex “Ortachalis Turfa”, Supervisory tower of Kopitnari Airport, Dwelling complex and trading complex “Karvasla” on Dadiani str., examination of stability of slope on Chavchavadze Ave. holiday complex “Pravda” in c. “Sochi” (Russia), calculation of retaining wall system on crossing of Matsesta-Khosta (Russia) railway near c. Sochi. hotel complex in c. Batumi and 18 storied dwelling building, N 2 - N 3 dwelling complexes at Kipshidze str. t. Bakuriani and Gudauri hotels, “Sative” 3 building, “Rike” complex (Archit. Meyer), and many other projects.

### **Work and Scientific Experience**

1973–1977 – Senior Engineer at Tbilikalakproject. Participated in the design of various facilities in Tbilisi (Ikaltó–Bakhtioni residential district, Nutsubidze Plateau, Railway Station, present-day State Chancellery building, former Palace of Rituals, and others).

1977–1987 – Senior Researcher at the Georgian Energy Institute (GRUZNIEGS). Research topic: seismic resistance of energy facilities (Enguri arch dam, nuclear power plants, and other facilities).

1987–1991 – Senior Research Associate (part-time) at the Institute of Structural Mechanics and Earthquake Engineering named after K. Zavrievi, Georgian Academy of Sciences.

Main scientific directions: development of new modern methods, algorithms, and software packages to ensure seismic resistance of structures; study of the actual behavior of structures under seismic action considering physical, geometrical, and structural nonlinearity.

Since 1987 – Head of the Theoretical Department at the Institute of Structures, Special Systems, and Engineering Support, Georgian Technical University (former Institute of Space Structures).

Main field: development of theoretical models of large deployable space structures, investigation of their fundamental parameters, structural analysis under special static and dynamic loads, design and testing of real objects.

- In June 23–28, 1999, the first Georgian-made object was launched into outer space by the Institute of Space Structures of Georgia – a large deployable space antenna-reflector. For contribution to this experiment, I was awarded the Order of Honor by Decree #935 of the President of Georgia, August 2, 1999.
- In 2001, for winning the tender announced by the European Space Agency, I was awarded the Medal for Combat Merit by Decree #736 of the President of Georgia, July 19, 2001.

Since 1986 – Collaboration with Georgian Technical University:

- 1986–1996 – Associate Professor (part-time) at Department No. 57, lecturing on “Structural Mechanics,” “Theory of Seismic Resistance,” “Dynamics and Stability of Structures.”
- Since 2003 – Associate Professor (part-time) at Department No. 90, lecturing on “Automatic Design of Structures,” “Finite Element Theory,” and applications of related software packages (LIRA-SAPR, ANSYS, NASTRAN, FEMAP, SAP2000, NONSAP, SCAD, MONOMAX, GEO-SLOPE, GEOSOFT, etc.).

1977–2003 – Senior Research Associate at the Georgian Scientific Research Institute of Energy (GRUZNIEGS).

Main focus: seismic resistance of nuclear power plants and unique hydrotechnical structures (Enguri, Khudoni, Namakhvani arch dams, Zhinvali dam, and others).

2007–2011 – Head of the Laboratory of Seismic Resistance Theory, Institute of Structural Mechanics and Earthquake Engineering named after K. Zavrivi.

Main directions: development of a new generation of national regulatory documents on earthquake-resistant construction, based on the European standard Eurocode 8; creation of modern methods, algorithms, and software for ensuring seismic resistance of structures; study of real structural behavior under seismic action considering physical, geometrical, and structural nonlinearity.

2011–2017 – Chief Designer and Lead Specialist at the Design Bureau of the Ministry of Defense of Georgia.

Since 2013 – Professor at the Georgian Technical University and Agricultural University of Georgia, delivering lectures in various disciplines.

### **Publications:**

I have published up to 70 scientific papers, including 4 inventions.

## Participation in Various Scientific Forums

1. International Symposium “Mechanics of Deformable Solid Body,” Tbilisi, 1998.
2. International Symposium “Seismic Resistance and Engineering Seismology,” Tbilisi, 1999.
3. *Millennium Conference on Antennas and Propagation*, Davos, Switzerland, April 9–14, 2000.
4. 28th Antenna Workshop on Space Antenna Systems and Technologies, Noordwijk, Netherlands, 2005.
5. *Conference on Engineering, Construction, and Operations in Challenging Environments, Earth and Space*, Texas, USA, March 5–8, 2006.
6. *AESE-2007 International Symposium on Advances in Earthquake & Structural Engineering – Behavior of Buildings under Seismic Action Taking into Account Non-Inertial Loads*, Suleyman Demirel University, Isparta–Antalya, Turkey, October 24–26, 2007.
7. *AESE-2007 International Symposium on Advances in Earthquake & Structural Engineering – Model of Nonlinear Behavior of Buildings under Seismic Action Taking into Account Non-Inertial Loads*, Suleyman Demirel University, Isparta–Antalya, Turkey, October 24–26, 2007.
8. International Scientific-Technical Conference “Problems of Structural Mechanics” – *Assessment of Building Behavior under Seismic Action Using Nonlinear Static ‘Pushover’ Analysis*, Georgian Technical University, Tbilisi, 2010.
9. Sh. Tserodze, E. Medzmariashvili, N. Tsignadze, M. Sanikidze, L. Datashvili, A. Sarchimelia, K. Chkhikvadze, N. Siradze, G. Bedukadze. *A New Design Variant of the Large Deployable Space Reflector, Earth & Space 2006: 10th Biennial International Conference on Engineering, Construction, and Operations in Challenging Environments and Second NASA/ARO/ASCE Workshop on Granular Materials in Lunar and Martian Exploration*, Houston, Texas, USA, March 5–8, 2006. Published online: April 26, 2012.
10. Sh. Tserodze, E. Medzmariashvili, N. Tsignadze, K. Chkhikvadze, M. Sanikidze, M. Janikashvili, N. Khatiashvili, M. Adeishvili, V. Medzmariashvili, N. Siradze. *New Types of High-Precision Deployable Space Reflectors*. Proceedings of the International Scientific Conference “Advanced Lightweight Structures and Reflector Antennas,” October 14–16, 2009, Tbilisi, Georgia. pp. 111–116.
11. First Annual Conference of the Georgian Mechanics Union, dedicated to the 120th Anniversary of Nikoloz Muskhelishvili – *Seismic Resistance Analysis of High-Rise Building with Dual (Frame–Wall) System*, Tbilisi, Georgia, December 20–22, 2010.
12. International Conference “Continuum Mechanics and Related Problems of Analysis” – *Using Nonlinear Static Pushover Analysis for the Design of High-Rise Buildings under Seismic Action*, Tbilisi, Georgia, September 9–14, 2011.
13. Sh. Tserodze, V. Gogolashvili, J. Santiago Prowald, K. Chkhikvadze, N. Tsignadze, A. Chapodze, M. Nikoladze. *New Design of a Transformable Mechanical Cone System with V-Folding Rods*. Proceedings of the International Scientific Conference “Advanced Lightweight Structures and Reflector Antennas,” October 1–3, 2014, Tbilisi, Georgia. pp. 89–98.

## Participation in Scientific Grant Projects

### International Grants

1. ISTC Project #G-490 – *Dynamic Code for Dams Stability Analysis*.
2. ISTC Project #G-1153 – *Concrete Dams and Alkali-Aggregate Reaction*.

### Participation in International Projects

- **1998–1999** – Space experiment for the creation and testing of a large-scale space antenna, “REFLECTOR” program (Georgia–Russia).
- **2001–2003** – European Space Agency tender for the development of a large deployable space antenna for Europe (Italy–Russia–Georgia).

### Language Skills

- Russian – fluent
- English – reading with dictionary

### Computer Skills

- **Software:** Microsoft Word, Microsoft Excel, AutoCAD, etc.
- **Programming Language:** Fortran
- **Specialized Engineering Software:** LIRA-WINDOWS, ANSYS, FEMAP–NASTRAN, PATRAN, SAP5, SAP2000, NONSAP, GEO-SLOPE, GEO-5, and others.