AZIZOV TALIAT

Doctor of Engineering Sciences (Civil Engineering), **Professor,**
Academician of the Academy of Construction of Ukraine, **Full Professor** of **Sumy National Agrarian University**, Ukraine

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ResearcherID (Web of science): AAW-6277-2021

Google scholar: https://surl.li/npsmkg

Citizenship: Ukrainian

Programming languages and software packages: Pascal, Turbo Basic, Mathcad, Lira, Microsoft Office.

Languages: Ukrainian, Turkish, Tatar, Uzbek, German (with dictionary).

Personal qualities: Responsibility, activity, purposefulness, ability to constantly learn to solve problems, easy adaptation in team, high work capacity and diligence

Research interests: stress-strain state of reinforced concrete structures with cracks under torsion; spatial behaviour of bridges and floor slabs; efficient bridge and floor slab designs; seismically safe designs of buildings and structures; methods for calculating reinforced concrete floor slabs taking into account crack formation. I conduct experimental and theoretical research with my students focused on reinforced concrete structures with enhanced torsional stiffness. I have developed original methods for analysing cracked reinforced concrete elements under torsion and for designing reinforced concrete floors and bridges considering spatial behaviour. I have also designed innovative suspended, seismically resistant buildings with no direct analogues.

1. Education, scientific degrees and ranks

1984 – **Civil Engineer**, Samarkand State Architectural and Civil Engineering Institut, Uzbekistan (diploma with honors)

1991 – **Candidate of technical Sciences** (PhD, specialty 05.23.01 “Building constructions, buildings and structures”), Central Research and Experimental Design Institute of Industrial Buildings and Structures of the State Committee for Construction.

2006 – **Doctor of Technical Sciences** (specialty 05.23.01 “Building constructions, buildings and structures”), Poltava national technical University.

2007 – **Professor** of Department of Technical and Technological Disciplines of the Pavlo Tychyna Uman State Pedagogical University, Professor of Department of Reinforsed and Stone structures of the Odessa State Academy of Civil Engineering and Architecture

2010 – **Academician of the Academy of Construction** of Ukraine

2. Professional experience

March 1991 – May 1998 – **Head** of Sector of Scientific Research and senior researcher of the Sumy center for research and design of industrial buildings of the State Committee for Construction of Ukraine.

September 1996 - May 2000 – **Associate Professor** of the Department of Building Structures of the Sumy Agricultural Institute (and sinse 1997 - Sumy National Agrarian University)

May 1998 – May 2000 – **Director** of the Sumy Center for Research and Design of Industrial Buildings of the State Committee for Construction of Ukraine

June 2000 – April 2006 – **Deputy Director** of the private enterprise ”Vtorma”

April 2006 – November 2025 – **Professor, Head of Department** of Technical and Technological Disciplines of the Pavlo Tychyna Uman State Pedagogical University

September 2012 - May 2014 – **Professor** of Department of the Department of Building Structures of the Sumy National Agrarian University

September 2007 – present – **Professor** of Department of Reinforsed and Stone structures of the Odessa State Academy of Civil Engineering and Architecture (part-time)

September 2022 – present – **Professor** of Department of the Department of Building Structures of the Sumy National Agrarian University

3. Scientific work

Author of **300 scientific work**s, including 6 monographs, 13 patents for inventions.

Member of the International Association of Bridge Organizations IABSE

Member of the s**pecialized Council for doctoral theses** in Odessa State Academy of Civil Engineering and Architecture

Member of the **specialized Council for PhD theses in the State research Institute of building constructions** of the Ministry of regional development of Ukraine (Kyiv)

Member of the **Scientific Council** of the **Ministry of education of Ukraine** (Kyiv)

The doctoral thesis supervisor:

- **12 PhD students have defended dissertations** on competition of the scientific degree Candidates of Technical Sciences
- **2 PhD students** work on their thesis at present

4. Directions of scientific activity

1. Earthquake-resistant buildings. Construction of the suspended building developed by the author is unique and has no analogues. It is much more resistant to seismic impacts and requires no special oscillation dampers. Moreover, it is inexpensive. The project development and its implementation in seismic regions is very perspective.

2. Deflected mode of reinforced concrete structures with cracks in torsion. Torsional stiffness of reinforced concrete elements must be taken into account during design, because its change influences signigicantly (several times!!!) on redistribution of strains of the complex statically indeterminate systems' elements. Almost all over the world change of the torsional stiffness of reinforced concrete elements due to cracking is not taken into account. It is missed even by the universally recognized software packages like Ansys, Lira, Nastran, Skad, etc. The original research conducted by author fill this gap in science that allows improving accuracy and reliability in engineering design.

3. Spatial behaviour of bridges and slabs. Design of slabs and bridges considering spatial behaviour of the separate elements allows improving design accuracy and reliability significantly. The author built the general theory and developed the general calculation techniques for prefabricated, monolithic and precast-monolithic slabs, taking into account their spatial behaviour. Consideration of spatial behaviour for opening of the reserves of bearing capacity of reinforced concrete slabs in their examination and strengthening is also presupposed.

4. Precast-monolithic structures manufactured on the construction site. The low-rise buildings' structures are developed to be manufactured directly at the construction site. Large manufacturing costs are not required. The production methods and calculation techniques of the stone elements in a closed prestressed and reinforced cage are developed by author. Various lintels' construction and calculation techniques of such structures for stone walls' strengthening have been elaborated as well.

5. Publications

Totally **321** works have been published, in particular **6 monographs**, **13 patents** for inventions, 302 articles and conference papers.

Total publications in **SCOPUS – 25**, **h-index in SCOPUS – 8.**

2025

Azizov T., Kochkarev D., Maistrenko O. Calculation of cross-laminated timber panels using the theory of composite rods and rod approximation // Solid State Phenomena. – 2025. – Vol. 380. – P. 94–106.

Azizov T. N., Kochkarev D. V., Galinska T. A. Buildings and structures calculations for air shock wave effect from conventional weapons // IOP Conference Series: Earth and Environmental Science. – 2025. – Vol. 1499, No. 1. – Art. 012012.

Kochkarev D., Azizov T., Galinska T. Basic positions of models of adhesion between concrete and reinforcement based on average tangential stresses // Lecture Notes in Civil Engineering. – 2025. – Vol. 712. – P. 142–151.

2024

Kochkarev D., Azizov T., Galinska T. Calculation of enclosures of defence structures based on the quasi-static method // Lecture Notes in Civil Engineering. – 2024. – Vol. 469. – P. 50–58.

Kochkarev D., Azizov T., Galinska T. Calculation of buildings and structures for air blasts using explosion accelerograms // Lecture Notes in Civil Engineering. – 2024. – Vol. 604. – P. 245–256.

Azizov T., Sribniak N., Tsyhanenko L., Volkov D. Modelling of reinforced concrete slab to account for cracking // Engineering for Rural Development. – 2024. – Vol. 23. – P. 302–311.

2023

Azizov T., Kochkarev D. Limits of applicability of plate theory in the analysis of reinforced concrete slabs // Sciences of Europe. – 2023. – No. 111. – P. 28–32. – DOI: 10.5281/zenodo.7680288.

Azizov T., Pereiras R. Influence of cracking on the forces in reinforced concrete slab elements // AIP Conference Proceedings. – 2023. – Vol. 2840, No. 1. – Art. 050001.

Azizov T., Kochkarev D., Galinska T. Taking into account change in wall stiffness when calculating torsion of reinforced concrete elements with normal cracks // AIP Conference Proceedings. – 2023. – Vol. 2684. – Art. 030003.

Azizov T., Pereiras R., Maistrenko O. Influence of the structural support model on the stress–strain state of reinforced concrete floor slabs // Materials Science Forum. – 2023. – Vol. 1100. – P. 159–165.

2022

Kosior-Kazberuk M., Kochkarev D., Azizov T., Galinska T. Approximation model of the method of design resistance of reinforced concrete for bending elements // Lecture Notes in Civil Engineering. 2022. Vol. 181. P. 245–254. (Scopus)

Azizov T., Kochkarev D., Galinska T., Melnyk O. Calculation of composite bending elements // Lecture Notes in Civil Engineering. 2022. Vol. 181. P. 25–33. (Scopus)

2021

Kochkarev D., Azizov T., Azizova A., Galinska T. Designing of standard cross sections of composite bending reinforced concrete elements by the method of design resistance of reinforced concrete : conference paper // Lecture Notes in Civil Engineering. – 2021. – Vol. 100. – P. 202–211. (Scopus).

2020

Azizov, T., Kochkarev, D., Galinska, T. Stiffness of reinforced concrete rod elements considering nonlinear concrete properties. Lecture Notes in Civil Engineering, Vol. 47, 2020, pp. 1–6. DOI: 10.1007/978-3-030-27011-7_1. (Scopus).

Azizov, T., Kochkarev, D., Galinska, T. Reinforced concrete rod elements stiffness considering concrete nonlinear properties // Lecture Notes in Civil Engineering. – 2020. – Vol. 47. – P. 1–6. – DOI: 10.1007/978-3-030-27011-7_1.

Kochkarev, D., Azizov, T., Galinska, T. Design of effective statically indeterminate reinforced concrete beams // Lecture Notes in Civil Engineering. – 2020. – Vol. 73. – P. 83–93. – DOI: 10.1007/978-3-030-42939-3_10.

2019

Azizov, T., Jurkowska, N., Kochkarev, D. Basis of calculation on torsion for reinforced concrete structures with normal cracks // Proceedings of the fib Symposium 2019: Concrete – Innovations in Materials, Design and Structures (ed. W. Derkowski et al.). – 2019. – Krakow, Poland. – P. 1718–1725 (Scopus).

Azizov, T., Derkowski, W., Jurkowska, N. Consideration of the torsional stiffness in hollow-core slabs' design // Materials Science Forum. – 2019. – Vol. 968. – P. 330–341. – DOI: 10.4028/www.scientific.net/MSF.968.330

Azizov, T., Jurkowska, N., Melnik, O. Advantages of suspension structures under seismic action: the case of a water tank. E3S Web of Conferences, Vol. 106, 2019, Article No. 01017. DOI: 10.1051/e3sconf/201910601017. (Scopus).

Azizov, T.N., Orlova, O.M., Nahaichuk, O.V. Calculation of torsional rigidity of I-section reinforced concrete elements with normal cracks. IOP Conference Series: Materials Science and Engineering, Vol. 708(1), 2019, Article No. 012041. DOI: 10.1088/1757-899X/708/1/012041. (Scopus).

Azizov, T.N., Kochkarev, D.V., Galinska, T.A. New design concepts for strengthening continuous reinforced concrete beams. IOP Conference Series: Materials Science and Engineering, Vol. 708(1), 2019, Article No. 012040. DOI: 10.1088/1757-899X/708/1/012040. (Scopus).
Kochkarev, D., Azizov, T., Myza, O. Strength and deformation of combined beams with side reinforced plates // Materials Science Forum. – 2019. – Vol. 968. – P. 234–239. – DOI: 10.4028/www.scientific.net/MSF.968.234 (Scopus).

2018

Azizov, T., Jurkowska, N. Improved technique for earthquake-resistant suspension buildings. Journal of Measurements in Engineering, Vol. 6, Issue 4, 2018, pp. 196–202. DOI: 10.21595/jme.2018.20411. (Web of Science).
Azizov, T., Jurkowska, N. Improving the design of earthquake-proof suspension buildings. E3S Web of Conferences, Vol. 36, 2018, Article No. 01001.
Azizov, T., Azizova, A., Al Ghadban, S. Construction and calculation of reinforced concrete overlap with a high spatial work effect // International Journal of Engineering and Technology. – 2018. – Vol. 7, No. 3.2. – P. 567–574. – DOI: 10.14419/ijet.v7i3.2.14591.
Kochkarev, D., Azizov, T., Galinska, T. Bending deflection reinforced concrete elements determination // MATEC Web of Conferences. – 2018. – Vol. 230. – Art. 02012. – DOI: 10.1051/matecconf/201823002012.

2017

Azizov, T.N. Structural design of the load-bearing frame of a suspended building and its erection method. Sciences of Europe, Vol. 1, No. 21, 2017, pp. 28–33.
Azizov, T., Melnyk, O., Orlova, O., Kalenchuk-Porkhanova, A., Vakal, L. Calculation of reinforced concrete ceilings with normal cracks accounting the Chebyshev approximation // MATEC Web of Conferences. – 2017. – Vol. 116. – Art. 02002.

2016

Azizov, T.N. Calculation of dynamic forces in elements of a suspended building. Sciences of Europe, Vol. 4, No. 9, 2016, pp. 69–73.
Azizov, T.N. Analysis of masonry elements strengthened by one-sided reinforced concrete jacketing. Bulletin of the Odessa State Academy of Civil Engineering and Architecture, Issue 61, 2016, pp. 3–8.

2009

Azizov, T.N. Torsional stiffness of reinforced concrete elements and its influence on the spatial behaviour of bridges. Mechanics and Physics of Failure of Building Materials and Structures, NAS of Ukraine, Lviv, 2009, pp. 576–590.

2008

Azizov, T.N. General approach to determining torsional stiffness of cracked reinforced concrete elements. Resource-Saving Materials, Structures, Buildings and Facilities, Issue 17, Rivne, 2008, pp. 92–99.

2004

Azizov, T.N. Analysis of reinforced concrete floor systems damaged by earthquakes. Building Structures. Interdepartmental Scientific and Technical Collection, Issue 60, Kyiv, 2004, pp. 518–523.

2001

Azizov, T.N. Theory of spatial behaviour of floor systems. Kyiv: Naukovyi Svit, 2001. 276 p. (Monograph).

Patents

Azizov, T.N. Method for manufacturing a spatial precast-monolithic structure. Utility Model Patent No. 54246, Ukraine, 2010.

Azizov, T.N. Design of a seismically resistant building. Utility Model Patent No. 54247, Ukraine, 2010.