Mikayel G. Melkumyan was born on June 10, 1951. He started his scientific and practical activity in 1973, immediately after graduation from the Civil Engineering Department of Yerevan Polytechnic Institute, carrying out both design works and experimental-theoretical research to study the behavior of various reinforced concrete structures under seismic actions. In 1983 he defended his thesis for the degree of Candidate of Engineering Sciences and began to lead the Department of Earthquake Resistant Construction at the Armenian Scientific-Research Institute of Construction and Architecture. After the Spitak earthquake of December 7, 1988 in Armenia, Prof. Dr. Melkumyan dedicated himself to the deep analysis of consequences of this and other earthquakes and reasons for widespread destructions of various buildings and structures.

From April 1990 through March 1991 he conducted research at the Institute of Industrial Science (IIS), University of Tokyo, where he was invited by Prof. Tsuneo Okada, Director of the Institute. On the basis of his experimental research works he created a new hysteresis model to describe the shear behavior of reinforced concrete structures (walls, diaphragms). As it is indicated in the Certificate granted to him by the IIS, this model and the formula proposed by him for calculation of horizontal stiffness of diaphragms were accepted in Okada and Nakano laboratory, and the model was incorporated in the computational software for earthquake response analysis of multistory frame buildings with predominance of shear deformation. It is also mentioned in the Certificate that this research work will have a considerable contribution to earthquake resistant construction and earthquake damage mitigation in the world.

After his return from Japan, from 1992 through 1996 he was a teaching Professor at the College of Engineering of the American University of Armenia, giving lectures on non-linear behavior of reinforced concrete structures and design principles thereof in earthquake resistant construction. At the same time he led the Earthquake Engineering Center of the National Survey for Seismic Protection under the Government of Armenia. From 1993 through 1997, having been approved by the Government for the position of Director, he managed the Spitak Earthquake Zone Reconstruction Project, financed by the World Bank. From 1993 he started his work on development and application of seismic isolation systems for buildings and structures in Armenia, in the meanwhile defending his thesis for the degree of Doctor of Engineering Sciences in 1997 on the subject “Formation of the Dynamic Design Models for Seismic Response Analysis of Reinforced Concrete Buildings and their New Structural Solutions”.

During a short period of time in 1995-1996, devoting him to the challenge of increasing earthquake resistance of existing buildings, he developed two unique methods of protecting existing buildings from earthquakes through base isolation and isolated upper floor (roof isolation) without interrupting exploitation of the buildings. His new technologies were successfully implemented in Armenia, where for the first time in the world a 5-story stone apartment building and over 60 years old 3-story stone school building, which had a historical and architectural value, were retrofitted by base isolation without evacuation of inhabitants and interruption of school functioning. Besides, for the first time seismic resistance of two existing 9-story apartment buildings of standard frame-panel design was enhanced by application of the isolated upper floor. These works are unprecedented in the world practice of earthquake resistant construction of the time.
Later on, his technology for seismic isolation of existing stone buildings (Patent of the Republic of Armenia № 579) was successfully applied in Russia during retrofitting by base isolation of a 100 years old bank building in Irkutsk city. Afterwards, the Government of Romania ordered a design for retrofitting about 180 years old municipality building in Iasi city, which he accomplished using the same technology.

His works in the fields of both non-linear behavior of reinforced-concrete structures and seismic isolation are well known to the international professional community by the weighty contribution to the science and practice of earthquake resistant construction. He has authored and co-authored 206 scientific works, including 15 books, 10 normative documents and standards, and 12 inventions. Among them three monographs: Formation of the Dynamic Design Models for Seismic Response Analysis of Reinforced Concrete Buildings and their New Structural Solutions. - Yerevan, 1993; New Solutions in Seismic Isolation. - Yerevan, LUSABATS, 2011; Non-Linear Behavior of Reinforced Concrete Structures under Seismic Actions. - Yerevan, LUSABATS, 2013. 133 of his scientific works have been published in international journals and proceedings of the World, European, and National Conferences in 32 countries of the world. As a principal structural engineer or member of the designers’ groups he has designed 93 earthquake resistant residential, civil, and industrial buildings.

He is the President of the Armenian Association for Earthquake Engineering, the Vice-President of the International Association of CIS countries on Seismic Isolation, a Honorary Member of the Anti-Seismic Systems International Society (ASSISi), an Academic Member of the Athens Institute for Education and Research, a Member of the Saint-Petersburg Arctic Academy of Sciences, a Corresponding Member of Engineering Academy of Armenia, a former International Expert in Seismic Protection of Buildings and Structures of the Professional League of Experts of the CIS countries' Commission on Earthquake Resistant Construction and Disaster Reduction, an overseas Member of the Research Center of Earthquake Resistant Structures of the IIS, University of Tokyo, a Member of the European Association for Structural Dynamics and European Association for the Control of Structures, a Member of the Editorial Boards of: International Journal on Civil Engineering & Urban Planning (IJCEUP) of the Wireilla Scientific Publications, International Journal on Engineering and Technology of the American Association for Science and Technology (AASCIT), American Journal of Science and Technology of AASCIT, Journal of Civil Engineering and Architecture Research of the Ethan Publishing Company, CA, USA, the Founder of the “Save the Yerevan Schools from Earthquakes” Foundation.