

## **Ali Akbar Moinfar, (1928-2018) the pioneer of Earthquake Engineering in Iran, passed away**

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Ali Akbar Moinfar was born in Tehran in 1928. He passed away on 2 January 2018 after about 23 months of treatments. He was resisting against different health problems, meanwhile whenever possible for him, he attended in the technical meetings. He was always ready to communicate courageously and continuously during his illness with his friends and colleagues, sometimes he received them in his house.

A.A. Moinfar has entered into the College of Engineering, University of Tehran in 1947 for receiving a BSc of Civil Engineering in 1951. He then jointed the structural bureau of the National Iranian Oil Company, in 1952. In 1957 when the 2 July 1957 Sangechal Mazandaran Northern Iran Ms7.2 occurred (killing about 1100 persons), Moinfar was the technical designer and manager of the big apartment construction project (Naziabad) in southern Tehran. Prof Naito of Waseda University, one of the legendary figures of earthquake engineering of his time, visited Iran with a group of Japanese Scientists after the Sangechal earthquake. They visited the project conducted by Moinfar, and Naito has selected Moinfar to be the 1<sup>st</sup> Iranian Civil Engineer to receive a scholarship from Japan to study Earthquake Engineering. He returned Iran in 1960 with a degree in Earthquake Engineering and joined to the Planning and Budget Organization of Iran after the 1 September 1962 Buin Zahra Ms7.2 earthquake. He has started to work with Nickolas Ambraseys who came to Iran after 1962 earthquake, and they started a warm friendship and collaboration for 5 decades (Ambraseys passed away on 28 December 2012). Moinfar has systematically visited the earthquake prone areas of Iran, meanwhile he collaborated with the UNESCO mission for earthquake prone areas around the world. He has written the first draft of Iranian seismic building code in 1964, and that has been published as a part of the structural code No.519 in 1969.

He has initiated the Strong Motion network of Iran essentially with 5 stations in 1974 and gradually completed to have about 270 stations up to 1979. The network has been improved to have modern digital recorders in 1992 after the Manjil Iran 1990 earthquake, and the number of stations has finally reached to 1100 stations. During all these years Moinfar has served as supervisor to this network. 2 months before his death, he has visited personally from the network and encouraged the new generation seismologist and engineers who are maintaining the network.

Moinfar has published the first reconnaissance report on the Manjil Earthquake of 20 June 1990, Mw7.3. This earthquake was strongly felt over an area of around 600,000 km<sup>2</sup>. The towns of Manjil and Rudbar, along with several other districts were destroyed and large number of people and villages were completely wiped out in the incident. The long period effect was experienced a relatively long distance away in the city of Rasht. The report has been the basis for several following studies published in the following years.

In 1995 an iso-acceleration and seismic hazard maps for Iran was prepared by Moinfar and his colleges based on the results of deterministic and probabilistic evaluation of the ground shaking hazard. The seismic source model used in this analysis was based on the results of seismotectonic and seismological studies to identify active faults and seismic source zones and to characterize them in terms of location, maximum earthquake magnitude, and earthquake recurrence.

In 1999 Moinfar has supervised a study on the earthquake resistance diagnosis in Tehran, that was carried out for some 350 buildings. Buildings were selected based on their age, usage, structure and distribution. The investigation covered Disaster Management Buildings, Emergency Response Organizations, hospitals, schools as well as residential buildings. Factors affecting seismic resistance of buildings in this investigation included age, construction quality, and ductility condition.

Moinfar was the head of the committee that improved the first independent Seismic Building Code of Iran (Standard No.2800), that has been approved in March 1989. Meanwhile he was the major supervisor for the Code No.2800 revision committee (having 46 member and in 2015 the 4<sup>th</sup> edition has been approved and officially implied in the country).

He was a kind man, father of 4 children, 3 sons and one daughter. His kind wife Shamsi passed away in the year 2000, he lived alone in the last 17 years of his life. He has accepted to be the 1<sup>st</sup> ministry of Petroleum of Iran in 1979, and he has been elected as a parliament member in 1980 (up to 1984). He had a very warm and kind personality and even 3 decades after his retirements from official governmental mandates he had always a ring of close friends among them there have been some young engineers and scientists even at the age of his grandsons. His continuous advise was earthquake risk reduction as a major duty for national interests. Nick Ambarseys has explained his strong personality to be named as a "tough man". He had and have a very respected and friendly figure among the Iranian earthquake scientists and engineers, such that even with a long life of 90

years, after his passing away, we miss him a lot. Peace be on Him and Rest in Peace.

Mehdi ZARE. 11 January 2018.