



Housner with a rooftop-shaking machine in a 1966 photo. Dino Morelli's design consisted of two off-center baskets that counterrotated on a common vertical axis at a speed precisely set by Tom Caughey's controllers. With the baskets loaded with several hundred pounds of lead weights, and the machine set to match Millikan Library's .85-second resonance period, it moved the building back and forth a quarter of an inch.

Professor George W. Housner (1910-2008)

See:

https://en.wikipedia.org/wiki/George_W._Housner

<https://www.nap.edu/read/13160/chapter/35>

<http://calteches.library.caltech.edu/714/2/Obituaries.pdf> (The right-hand photo above is from this source.)

https://www.researchgate.net/scientific-contributions/2038788414_George_W_Housner

From Wikipedia:

George W. Housner (December 9, 1910 (Saginaw, Michigan) – November 10, 2008 (Pasadena, California)) was an eminent authority on earthquake engineering and National Medal of Science laureate. Housner received his bachelor's degree in Civil Engineering from the University of Michigan where he was influenced by Stephen Timoshenko. He earned his Masters' (1934) and Doctoral (1941) degrees from the California Institute of Technology where he had been a Professor of Earthquake Engineering from 1945 to 1981, and Professor Emeritus thereafter.

Annually, in recognition of those who made extraordinary contributions to the earthquake safety research, practices and policies, EERI awards The George W. Housner Medal of the Earthquake Engineering Research Institute. On his death, Prof. Housner left a substantial gift to EERI "to advance the objectives of EERI". This gift has been used to train future earthquake engineering policy advocates and thought leaders through the EERI Housner Fellows Program, which has been active since 2011.

Selected Publications (Only those primarily involving thin shells):

Housner, G.W. Characteristics of strong motion earthquakes, Bull. Seismol. Soc. Am 37, pp.19-31, 1947.

G. W. Housner, "Bending vibration of a pipeline containing flowing fluid", Journal of Applied Mechanics, Vol. 19, 1952, pp. 205-208

Housner, G.W. (1957), "Dynamic pressures on accelerated fluid containers", B Seismol. Soc. Am., 47(1), 15-35.

G. W. Housner and W. K. Tso, "Dynamic Behavior of Supercritically Loaded Struts, "J. Eng. Mech. Div., Proc. Amer. Soc. Civil Eng., 41-65 (1962)

Housner, G.W., "The Dynamic Behavior of Water Tanks", Bulletin of Seismological Society of America, Vol. 53, No. 2, 1963, pp. 381-387.

A. M. Abdel-Ghaffar and G. W. Housner, "Ambient vibration tests of suspension bridge," ASCE Journal of the Engineering Mechanics Division, vol. 104, no. 5, pp. 983-999, 1978.

Haroun, M. A. and Housner, G. W. (1981), "Seismic Design of Liquid Storage Tanks", ASCE Journal of the Technical Councils, Vol. 107, No. 1, pp. 191-207

Haroun, M. A. and Housner, G. W. (1981) "Dynamic interaction of liquid storage tanks and foundation soil", Proceedings of the 2nd ASCE/EMD Specialty Conference on Dynamic Response of Structures, Atlanta, Georgia, pp. 346-360

Haroun MA, Housner GW. Earthquake response of deformable liquid storage tanks. ASME Journal of Applied Mechanics 1981;48(2):411-418.

Haroun MA, Housner GW (1982) Dynamic Characteristics of liquid storage tanks. J Eng Mech Div. ASCE 108 (EM5)