

AMERICAN UNIVERSITY OF ARMENIA
College of Engineering

Announces a Five-Week Course
June 15 to July 17, 1992
on

SEISMIC WAVES AND STRONG MOTION SEISMOLOGY
By Professor Bruce A. Bolt

Course outline: *Earthquake parameters:* Intensity, location, magnitude, moment, energy. *Seismometry:* theory of seismograph, strong motion accelerometers, ground motion processing. *Seismic sources:* elastic rebound theory, fault parameters, stress drop, moment tensor, asperities and barriers, directivity. *Elasticity theory:* analysis of stress and strain, elastic waves, wave equations. *Body waves and surface waves:* layered media, inhomogeneous and isotropic cases, non-linear behavior, reflection, refraction and diffraction of elastic waves. *Spectral representations:* source estimation, response spectra. *Spatial variations:* topography, radiation patterns, attenuation of strong motions, duration, array of accelerometers, coherency. *Synthetic time histories:* Green's function construction, spectral and coherency compatibility. *Inverse theory:* estimation of propagation path structure and source parameters. *Seismic hazards:* probability models and seismic risk mapping. *Major earthquakes:* case histories and recorded ground motions, including Mexico (1985), Spitak(1988), Loma Prieta(1989) and Turkey(1992).

Text: K.E. Bullen and B.A. Bolt. *An introduction to the Theory of Seismology*, Cambridge University Press, 1985.

The Instructor: A Distinguished Visiting Professor at AUA, Bruce A. Bolt is a renowned scholar and an expert seismologist with an extensive record of accomplishments and academic leadership. He has been a Professor of Seismology at the University of California, Berkeley since 1963, and the Director of its Seismographic Station from 1963 to 1989. He has given invited lectures throughout the world and has served of numerous governmental and professional capacities as advisor, consultant or other leading positions. He has served as Editor of the *Bulletin of the Seismological Society of America*, President of the Board of Seismological Society of America, Chairman of the

Seismic Safety Commission of the State of California, and Chairman of the Committee for International Decade of Natural Disaster Reduction of the International Association of Seismology and Physics of the Earth's Interior. He is a Fulbright Scholar, Fellow of the Geological Society of America and of California Academy of Sciences, and an elected member of the U.S. National Academy of Engineering. He has more than 200 publications, including 17 books and monographs.

Enrollment: A limited number of auditing students will be admitted. All lectures are given in English and a good ability in comprehending the language is required of all attendees. The fee for the course is 500 Rubles for Residents of Armenia, 1000 Rubles for students from other Ruble-currency republics, and \$1000 for auditors from other countries. All auditors who successfully complete the course will be given a Certificate of Attendance. For further information call the American University of Armenia at 27-10-85, 27-16-29 or FAX (885-2-151-048). Address: 40 Marshal Bagramian Street, Yerevan, 375019, Republic of Armenia.