The special committee of the General Faculty to prepare a memorial resolution for Eugene Arman “Rip” Ripperger, professor emeritus, Cockrell School of Engineering, Department of Aerospace Engineering, has filed with the secretary of the General Faculty the following report.

Dean P. Neikirk, Secretary
General Faculty and Faculty Council

IN MEMORIAM
EUGENE ARMAN “RIP” RIPPERGER

Professor Eugene Arman Ripperger, known as “Rip” by his friends and colleagues, passed away on October 5, 2014, at the age of one hundred years and three months. The Department of Aerospace Engineering and Engineering Mechanics lost a most esteemed faculty member who was much respected and beloved by his colleagues, students, and friends throughout the world.

Rip was born on July 7, 1914, in Stover, Missouri, to Winnie and William Ripperger and grew up with three brothers and a sister. After he graduated from the Stover High School in 1931, he entered Kansas State University and earned a B.S. degree in civil engineering in 1939. On June 23, 1940, he married his sweetheart, Betty Nan Morley, and started a happy marriage of seventy-four years. At this time, Rip went to work for the Portland Cement Company in Chicago. In 1943, he joined the United States Navy, serving as a lieutenant and first radar officer on the cruiser USS *Minneapolis* in the South Pacific during World War II until its end. After the war, Rip went on to further his education with the assistance of the G.I. Bill. He earned a M.S. degree in mechanical engineering at The University of Texas at Austin and, subsequently, a Ph.D. from Stanford University, where he studied under Professor Norman Goodier.

Rip had a long association with The University of Texas at Austin. He taught statics and dynamics when he was a graduate student in the Department of Mechanical Engineering in 1946. After earning a M.S. degree, he joined and taught in the Department of Engineering Mechanics for a few years before going on to doctoral study. Upon receiving his Ph.D. from Stanford University in 1952, Rip returned to the Department of Engineering Mechanics at The University of Texas at Austin, where he taught and carried out research until his retirement in 1982.

Rip, a great experimentalist and teacher, was well known for his works on wave propagation and impact loadings. He devoted his time and effort to teaching students and developing new methods and ideas. He was the first engineer to use piezoelectric crystal to measure surface waves, the first to develop a microthermocouple for measuring the temperature change in burnt tissue, and the first to measure the movement of and the pressure rise in the brain when the head was subjected to an impulsive loading. His experimental study on propagation of shock waves in materials at elevated temperatures and under high confining pressures helped to establish the understanding of strain-rate effects on material properties under rapid loadings. His measurements of impact forces and damage produced by a free-falling object on honeycomb pad at different angles helped the U.S. Army to develop a shock isolation procedure for equipment dropped from a low-flying airplane. Rip had a long working relationship with the Sandia National Laboratories in Albuquerque, New Mexico, where he was involved in research projects related to the propagation of shock waves in solids. He was a prolific writer, having authored numerous reports to research sponsors, published more than forty archival papers, and coauthored with Professor Oden the textbook *Mechanics of Elastic Structures*. 
In the mid-1970s, Rip developed with a colleague a laboratory course on measurement and instrumentation for aerospace undergraduates. It was the first hands-on course of this kind, and it received great interest and attention from colleagues at other universities. It became a required course for our own students and students from the Department of Mechanical Engineering. Rip taught the course in alternate semesters until his retirement.

Rip was a devoted and able teacher who was especially effective working one-on-one with graduate students. He provided both inspiration and stimulus as he guided them through research endeavors. He served as the dissertation advisor to twenty-six Ph.D. students as well as thesis advisor to thirty-five M.S. students. It is significant to note that Rip kept up with his students after graduation. His concern for them did not end when they left The University of Texas at Austin. He stayed in touch and assisted them throughout their careers.

Rip’s extensive research and knowledge on impact loadings led to his being called to testify as an expert witness in many court cases involving automobile collisions and other incidences involving impact loadings. His thoroughness, fairness, and impartiality made him the most sought-after expert witness in the state of Texas.

Rip was a quiet and modest man, a man with integrity and principles. He always listened patiently and spoke softly and thoughtfully, and he was always attentive and considerate. Rip was deeply admired and respected by those who associated with him.

Rip is survived by his wife—Betty; daughters—Elizabeth Ann Ripperger Jolly, Emily Alice Ripperger Eddins, and Jane Agnes Ripperger-Suhler; grandchildren—Michelle Elizabeth Jolly, Douglas Thomas Jolly, Michael Nelson Eddins, Hana Emilie Ripperger-Suhler Leshner, Daniel Aaron Ripperger-Suhler; and great-grandchildren—Erik Thomas Andersen, Thomas James Jolly, and Makaela Faye Jolly. In addition to his remarkable professional contributions, Rip leaves behind a large number of appreciative former students, many fond memories among his friends and colleagues, and relationships forged over many decades. He will be missed dearly and long affectionately remembered.

This memorial resolution was prepared by a special committee consisting of Professors Ching-Hsie Yew (chair), Stelios Kyriakides and Byron D. Tapley.

Distributed to the dean of the Cockrell School of Engineering on March 25, 2015, and posted under “Memorials” at http://www.utexas.edu/faculty/council/.