

Susan L. Halgedahl, 1946 – 2024

Dr. Susan ‘Sue’ Halgedahl, Associate Professor Emerita in the University of Utah’s Department of Geology & Geophysics, who specialized in magnetic domain states, fine-particle magnetism, and Middle Cambrian fossils of western Utah, died June 2024. She was 77.

Sue’s work focused on magnetic domain states and patterns in natural iron oxides. She made significant contributions to our understanding of domain nucleation processes and their implications for fine-particle magnetism in rocks. She established a rock magnetic and paleomagnetic laboratory at Utah where she conducted challenging experiments on small rock samples and single crystals. Sue was elected a Fellow of the American Geophysical Union in 1997 in recognition of these achievements. Later in her career, she and her late husband, Dr. Richard D. Jarrard, a petrophysicist and also a faculty member in the Department, took great interest in exceptionally-preserved soft-bodied animals from the Middle Cambrian of western Utah, such as jellyfish, arthropods, and early deuterostomes. These unique 500-million-year-old fossils document the ‘Cambrian explosion’ of the initial diversification of many animal lineages alive today, and Sue discovered several species new to science. She also combined her geophysical and paleontological interests to investigate how geophysical data could help identify horizons preserving these exceptional fossils.

Sue earned her Ph.D. in 1981 from the University of California, Santa Barbara, under the direction of Dr. Mike Fuller. Prior to her faculty appointment at Utah in 1991, she was a Research Scientist for ARCO Oil and Gas from 1981 to 1984, and then an Associate Research Scientist from 1984 to 1990 when she was promoted as one of the earliest women to be members of the Senior Staff at the then-named Lamont-Doherty Geological Observatory of Columbia University. Much of her early work on mineral magnetism used samples from the Ocean Drilling Program. At Utah, Sue and Rich developed a popular online general education course “Living with Earthquakes and Volcanoes” long before online courses were common; an updated version of this course remains popular each semester, 20 years after its launch. Sue was keen to share geoscience with the public and was a long-time supporter of the Natural History Museum of Utah.

Outside of academia, Sue enjoyed music, playing the piano, and sharing meals with friends. Former graduate students remember Rich and Sue being kind and generous in sharing their knowledge.