



James and Corale Brierley

2014 Medal of Merit

The Brierleys met at Montana State University in Bozeman and subsequently married in 1963. Corale, the daughter of ranchers, grew up in southwestern Montana and sometimes rode Betty, her horse, to her one-room country school house. Jim, the only child of an immigrant single mother, developed his lifelong fascination with thermal springs when he accidentally stepped into one on his first trip to Yellowstone National Park at age 9.

While working on his post-graduate studies, Jim's extensive research led to the discovery of the first high temperature (thermophilic) acid loving microorganism - *Acidianus brierleyi* – named by German scientists in his honor. After earning his PH.D., Jim joined the faculty of New Mexico Institute of Mining and Technology (NMT) in Socorro and Corale often enrolled in his courses.

In 1982, Corale was approached to form a company to develop biotechnology for mining and founded Advanced Minerals Technology and Jim served as its Research Director. The company with some 23 scientists and engineers developed and patented technologies for bioleaching and metal removal but was forced to dissolve when the stock market crashed in 1987. Jim then joined Newmont Mining Corporation as Chief Research Scientist and Corale soon followed as Chief of Environmental Process Development.

Laid off by Newmont, Corale began accepting consultant work in bioleaching and with increased requests for her service, founded Brierley Consultancy LLC in 1991 providing technical and business consultation to the mining and chemical industries as well as government agencies. Jim's confidentiality agreement with Newmont prohibited the Brierleys for the first time since 1963 to confer on technical matters. Happily they were able to resume their collaboration when Jim retired from Newmont and became Principal of Brierley Consultancy in 2001.

Jim and Corale share many parallel career paths. Both earned Ph.Ds. in science, both received "Distinguished Achievement Award" from their respective universities, both are recipients of the SME (Society of Mining Metallurgy & Exploration) Milton E. Wadsworth Award, and both are inducted members of the U.S. National Academy of Engineering (NAE) for their demonstrated accomplishments in the pioneering of new technology. The first Brierley and Brierley technical paper was published in 1973 and many of their technical papers over the decades became the basis for the bioleaching technologies applied commercially today for copper and gold recovery – theirs is a true scientific partnership.