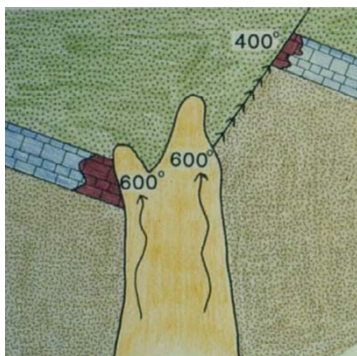


1975	B.A. in Geology, Carleton College
1980	Ph.D. in Geology, Stanford University
1999	National Science Foundation Senior Visiting Scientist – Japan
2007	Fulbright Scholar – Argentina
2010	Society of Economic Geologists – Silver Medal

LAWRENCE D. MEINERT is a Research Affiliate at the Colorado School of Mines and Editor of Economic Geology, the flagship journal of the Society of Economic Geologists. Previously he was Deputy Associate Director for Energy & Mineral Resources at the U.S. Geological Survey where he not only oversaw the research activities and funding for hundreds of scientists across the country but was involved with policy development in the Executive and Legislative branches as well as international meetings with the EU, China, and Japan. Before that he was an AAAS Congressional Fellow in the offices of Senator Chris Coons (DE) and Rep. Gabrielle Giffords (AZ 8th) where his portfolio included energy, environment, and mineral resources. Prior to that he had a successful academic career at Smith College and Washington State University where he managed research laboratories and advised dozens of postdoctoral scientists and Ph.D., M.S., and B.S. students engaged in cutting edge mineral resource research, funded by the U.S. National Science Foundation and private industry. His teaching has won numerous awards including development of the interdisciplinary course, *Sherlock Holmes and the Scientific Method*. He has worked as a consultant for major mining companies, wineries, and vineyards in more than 50 countries and has been to most corners of the planet. In his spare time, he operates a small home winery specializing in a barrel-fermented Bordeaux-style blend of Cabernet Sauvignon, Carmenere, and Malbec. He has run the Boston Marathon several times and has completed all the major military marathons, including the Marine Corps Marathon (finishing ahead of several Marines considerably younger than him).

Talk Title: “Exploration for Skarn Deposits – If Sherlock Holmes had been a Geologist”



Skarn is a type of rock that consists of calc-silicate minerals, such as garnet and pyroxene, that typically form at the contact of an intrusion and limestone. Because of the strong compositional and thermal gradients between the hot magma and cooler carbonate rocks, there is a zone of intense reaction that forms new, commonly coarse-grained, minerals along with precipitation of economically important elements such as copper, gold, tungsten, and zinc. These mineralized occurrences are called skarn deposits and constitute some of the largest and most abundant ore deposits on Earth. A skarn deposit is a natural geochemical laboratory

involving changes in temperature, pressure, oxidation state, pH, and phase equilibria. Understanding these diverse chemical drivers allows the exploration geologist to probe the mysteries of the Earth in the same way that Sherlock Holmes used his knowledge of tobacco ashes, clay mineralogy, and human psychology to solve seemingly impossible puzzles. This talk will illustrate all of the above for locales ranging from the highest mountains of South America to the densest jungles of Papua New Guinea.