John Eichelberger's Short Bio for EAPS students

John Eichelberger's career spans 46 years (as of 2020) in national laboratories, the federal government, and University of Alaska Fairbanks (UAF), encompassing igneous petrology, volcanology, geothermal energy, natural hazards, and international Arctic education. His academic preparation was a BS and MS at MIT (1971) and a PhD at Stanford (1974), all in geology (igneous petrology). He was a staff member in Los Alamos National Laboratory's Energy Division from 1974 until 1979, when he joined the Geosciences Division at Sandia National Laboratories. Sandia recognized him as Distinguished Member of Technical Staff in 1989 for leadership in scientific drilling and promoted him to Geochemistry Supervisor in 1990. In 1991, he moved to UAF to become Professor of Volcanology and lead the then nascent Alaska Volcano Observatory (AVO). Sixteen years later he moved to Virginia to become Program Coordinator of the US Geological Survey's (USGS) Volcano Hazards Program, managing the nation's volcano observatories including AVO. He returned to Fairbanks in 2012 as Dean of the Graduate School, during which time he also served as Vice President Academic of the University of the Arctic. Beginning with his time at AVO and continuing through USGS and University of the Arctic, a career theme has been international cooperation in natural hazards, particularly with Russia. In 2015 he was awarded the Sergey Soloviev Medal by the European Geosciences Union for this work. Dr. Eichelberger is best known for volcanological discoveries concerning mixing and degassing of magmas, for leadership in scientific drilling of volcanic systems, and for advocacy of international collaboration in natural hazards, documented in some 100 publications. He is now Professor Emeritus at UAF but continues research and international activities from his base at the International Arctic Research Center. His most memorable adventures were drilling Kilauea Iki lava lake, the eruption of Mount St Helens, and teaching field classes on volcanoes in Kamchatka, Russia and the Valley of Ten Thousand Smokes, Alaska.

The current focus of John Eichelberger's work is building the Krafla Magma Testbed (KMT, www.kmt.is). This is to be the world's first magma observatory, an international, multiple borehole, 3-D laboratory for conducting unprecedented, long-term science and engineering experiments in and near magma under Iceland's Krafla Caldera. Critical to the success of this laboratory and an integral goal will be the development of extreme sensors, first for temperature, that can provide time-continuous and vertically distributed data in the transition zone from magma to solid rock. Applications are to an order of magnitude leap in geothermal power productivity and to reliable forecasting of volcanic eruptions.

John attributes much of the diversity and success of his career to his mentors at MIT, William C Luth, David R Wones, and Thomas R McGetchin. In fact, he followed Luth to Stanford, McGetchin to Los Alamos, and Luth, again, to Sandia and one could say Wones to USGS. John's students have found responsible positions in state and Federal governments, academia, the Smithsonian, Geological Society of America, and the private sector. As a faculty member he held seminars on career paths for geoscientists. He felt this was needed because so many faculty advisors have limited experience outside academia. Probably few people realize that the most famous igneous petrologist of all, Norman L Bowen, received both his SB and PhD from MIT.

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