

Peter Kelemen

Position/Department/Division/Institution/Organization

Professor of Earth and Environmental Sciences, Columbia University

Country

USA

Career history

Peter B. Kelemen, studies the chemical and physical processes of reaction between fluids and rocks. He has worked on the genesis and evolution of oceanic and continental crust, chemical cycles in subduction zones, and new mechanisms for earthquake initiation. His primary focus now is on geologic storage of CO₂, CO₂ removal from air via carbon mineralization, and reaction-driven cracking processes in natural and engineered settings, with application to CO₂ storage. He teaches a popular course on “Earth Resources for Sustainable Development” at Columbia, as well as courses and seminars on CO₂ management, petrology, geochemistry, and geodynamics. Kelemen was a founding partner of Dihedral Exploration (1980-1992), consultants specializing in mineral exploration in steep terrain. He received his A.B. from Dartmouth College in 1980, and his Ph.D. from the University of Washington in 1987. He spent 16 years at the Woods Hole Oceanographic Institution (WHOI) before moving to Columbia’s Lamont Doherty Earth Observatory in 2004. Kelemen is the Arthur D. Storke Professor of Earth & Environmental Sciences at Columbia University, a Research Associate at the American Museum of Natural History, an Adjunct Scientist at WHOI, Chief Scientist of the Oman Drilling Project, and a member of the Mars 2020 Rover Science Team. He is a member of the National Academy of Sciences, and a Fellow of the American Geophysical Union (AGU), the Mineralogical Society of America, the Geochemical Society, and the European Society of Geochemistry.

Awards/Publications

AGU Bowen Award (2004) and the AGU Hess Medal (2021).