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Memorial of Maryellen Cameron (1943−2022)

MSA Fellow Maryellen Cameron passed away in Falls Church, Virginia, on December 15, 2022, after a long struggle with Parkinson's disease. She was 79 years old.

Her scientific career spanned almost 35 years at three academic institutions—University of California, Santa Cruz; University of Oklahoma; and Miami University (Ohio)—and at the National Science Foundation (NSF) in Washington, D.C. She made seminal contributions in mineralogy and volcanology and helped establish and manage one of the first interdisciplinary geoscience research programs at NSF. She also trained and mentored a generation of geoscientists, many of whom became lifelong friends.

An excellent student in high school, Maryellen developed an early interest in aviation with the encouragement of her father, who paid for her flying lessons starting at age 15. She earned a private pilot's license at 17, unusual for a young Southern woman (born and raised in New Orleans) in the early 1960s. Although she didn't pursue aviation after high school, she sometimes fantasized about stepping in to save the plane if a pilot on her commercial passenger flights ever became incapacitated.

She enrolled at Louisiana State University after high school with the intention of pursuing an engineering degree but found engineering uninteresting and the engineering department inhospitable to women. She switched to geology because she liked the outdoors and nature, and also because then-boyfriend Ken Cameron, whom she later married, studied that major. She transferred to the University of Houston, where she earned B.S. and M.S degrees in geology in 1965 and 1969, respectively.

Her master's thesis on the Rattlesnake Mountain Intrusion in Big Bend National Park, completed under the guidance of Professor Max Carmen, involved classical mapping and petrographic analysis. Max's mentoring and encouragement played an important role in Maryellen's early development as a scientist, and her thesis work kindled a broader interest in the volcanic and tectonic evolution of the Trans-Pecos Magmatic Province, which she returned to later in her career, as well as a deep love for Big Bend National Park, Texas landscapes, and country music.

Maryellen's Ph.D. and postdoc work focused on classical mineralogy. She received a Ph.D. from the Virginia Polytechnic Institute and State University in 1972, working with Professor Gerry Gibbs on the crystal chemistry of clinoamphiboles. Her postdoctoral work with Professor James Papike at the State University of New York at Stony Brook produced highly cited review articles on amphiboles and pyroxenes and several other papers.

She moved to the University of California, Santa Cruz, in 1973—following Ken, who had taken a faculty position there—as a researcher and lecturer. She resumed work in volcanology, initiating a research project with Ken on the volcanic and tectonic evolution of the Sierra Madre Occidental in Mexico, one of the largest rhyolite provinces in the world and the surface expression of a major circum-Pacific batholith. They and their students (including coauthor William Bagby) spent several weeks in the field each summer, hiking into the backcountry from their base in La Bufa using pack animals to carry camping supplies and field equipment and sometimes encountering Mexican Federales and members of drug gangs. Ken commented that working there was 70 percent survival and 30 percent science.

Maryellen Cameron, fieldwork in Batopilas Canyon, Sierra Madre Occidental, Mexico, 1974.

The project generated geochemical data on the Tertiary rhyolites and associated intermediate lavas and on the underlying Mesozoic intrusives and deep crustal granulite and mantle xenoliths. These data supported the hypothesis that the rhyolites evolved largely by crystal fractionation of mantle-derived magmas and that they marked a major crust-forming event.

The opportunity for a tenure-track faculty position in a growing department lured Maryellen to the University of Oklahoma in 1981, where she accepted an associate professor appointment in the School of Geology and Geophysics—about the same time her marriage to Ken was ending. She and her students continued the Mexico project, and she began working with geology faculty member Kevin Crowley on the structural characteristics of radiation damage in apatite.

She left Oklahoma in 1987 to become professor and chair of the Department of Geology (now the Department of Geology and Environmental Earth Science) at Miami University. She led the modernization of the department and mentored a cadre of early-career geology faculty who had been recruited as part of the modernization effort. She also continued to work on apatite

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radiation damage and crystal chemistry with Kevin, whom she married after moving to Miami, Professor John Hughes, and colleagues from the University of New Mexico and Arizona State University, producing a series of widely cited papers.

Maryellen spent the last phase of her career in research program management at the National Science Foundation in Washington, D.C., starting in 1992. She was a program director in the Division of Earth Sciences, initially managing the Petrology and Geochemistry Program, then helping to establish and manage the Environmental Geochemistry and Biogeochemistry Program, an interdisciplinary research program designed to address pressing environmental problems. She later became the executive officer in the Office of Polar Programs, supporting the Foundation's research programs in Antarctica, Greenland, and Alaska; as well as senior advisor in the Budget Division and senior staff associate in the Office of Integrative Activities.

Retirement called to Maryellen in 2006, when she left NSF to pursue personal interests: She joined a woman's golf league; took up running, completing a marathon at age 67; worked in her garden, a lifelong passion; and traveled more frequently with Kevin. They purchased a tandem bike so they could continue to enjoy outdoor adventures together after she was diagnosed with Parkinson's disease in 2015. She led an active life until early 2022, when Parkinson's began to overtake her. She was hospitalized in December and died peacefully in her sleep with Kevin at her side.

Maryellen was a long-time MSA member and fellow. She was an associate editor of American Mineralogist (1980–1983); served on the Society's governing Council as Secretary (1988–1991); and served as one of the two inaugural lecturers from MSA's Distinguished Lecturer Program (1989–1990). She was also a co-designer of the MSA seal.

Maryellen's journey to success as a scientist required her to break through many personal and professional barriers, which was not unusual for women of her generation. She was the first person in her extended family to attend college and had few female role models for being a successful teacher and scholar. But she served as a role model for a generation of female students, who were attracted by her teaching, research excellence, and reputation as a patient and caring mentor. She greatly enjoyed teaching and research but considered mentoring to be her greatest joy.

Always humble about her career accomplishments and grateful for the opportunities that science had given her, Maryellen thought it astonishing that a person born to her circumstances could achieve the educational and career successes she had. She was an extraordinary woman who will long be remembered by her family, friends, and colleagues.

Acknowledgments

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Retired from the National Academies of Sciences, Engineering, and Medicine
William C. Bagby
Retired economic geologist
John M. Hughes
Retired from the Department of Geology and Environmental Earth Science, Miami University