# Dedication to Maureen B. Steiner

*It is a great pleasure to dedicate this special issue of Volumina Jurassica to Maureen Steiner, one of the great students of paleomagnetism, particularly of the Jurassic. Maureen began her academic career at Southern Methodist University (SMU) in Dallas, Texas, receiving a B.S. in geology in 1966 followed by a M.S. in geology in 1967. Then a paleontologist, Maureen's masters thesis was an important study of Lower Permian fusulinids from southern New Mexico.*

*However, Maureen soon re-invented herself as a geophysicist, undertaking her Ph.D. in geology at the University of Texas at Dallas. Here, she was the student of Charles Helsley, one of the great American pioneers of the study of geomagnetism and paleomagnetism. Steiner's Ph.D. dissertation under Helsley's supervision was titled "The position of the geomagnetic pole relative to North America during the Jurassic, and geomagnetic field polarity during the Mesozoic Era." Working together, Steiner and Helsley thus were among the first scientists to determine Mesozoic paleopoles for North America and to develop the Mesozoic portion of the global polarity timescale. In the mid-1970s, this cutting edge research produced a series of now classic publications by Steiner and by Steiner and Helsley (see bibliography below) that became the basis for much of what we know now about Mesozoic paleomagnetism.*

*After receiving her Ph.D., Maureen spent almost her entire professional career at the University of Wyoming in Laramie, from which she recently retired, occupying various faculty positions. During the late 1970s, Maureen also began participation in the Deep Sea Drilling Program (later called the ODP), with an invitation to undertake paleomagnetic studies of various cores. Nevertheless, her work on Mesozoic paleomagnetism continued. Indeed, the very first analyses of the paleomagnetism of well-known Jurassic strata of the American West, including the Kayenta, Curtis, Summerville and Morrison formations, among others, were undertaken by Maureen. Add to that comparable work in diverse Triassic and Cretaceous strata, and it is fair to say that much of what we know of Mesozoic paleomagnetism in the western USA—paleopoles and magnetic polarity stratigraphy—began with the research of Maureen Steiner.*

*By the 1980s, Maureen expanded her geographic reach, working on problems of paleomagnetism on rocks well beyond the western USA. Much of this occurred in close collaboration with Jim Ogg of Purdue University, and took her as far afield as Spain, Poland, China and the Canadian Arctic. One of the most important research results of this phase of Maureen's scientific career was the publication of a Jurassic geomagnetic polarity timescale in the mid-1980s. Subsequently, work on Permian magnetostratigraphy also became part of Maureen's research program and ultimately led to her 2006 article that still represents the best synthesis of Permian magnetostratigraphy available in print.*

*Maureen's paleomagnetic studies have thus proved foundational to the development of the geomagnetic polarity timescale, especially of the Jurassic. But, she has also applied her data and analyses to other problems of geotectonics. These include longstanding debate about whether or not, and to what degree, the Colorado Plateau may have rotated during the Late Cretaceous-Eocene Laramide orogeny. And, what geophysicists call the "J-1 cusp," a perplexing reversal in the polar wander path of the North American plate, has largely been defined by Maureen's work.*

*Over a span of about four decades, Maureen's research found extensive grant funding from diverse sources, especially the U.S. National Science Foundation. She supervised more than a dozen graduate theses, and Maureen has long been a member of numerous societies such as Phi Beta Kappa, Pi Mu Epsilon, the Geological Society of America and the American Geophysical Union (AGU). At various times she served AGU, both as an associate editor of the Journal of Geophysical Research and as secretary of its Geomagnetism and Paleomagnetism Section.*

*Over the last 20 years, and particularly during the 1990s, I was fortunate to collaborate with Maureen on research projects of shared interest, with particular focus on Triassic magnetostratigraphy. Through that collaboration I learned that Maureen is a remarkably tenacious researcher—determined to obtain all of the necessary and the very best data and to "get it right" whatever the cost in time and effort. That Maureen brings rare depth from diverse areas of geology to her research on paleomagnetism identifies her as a profound and versatile scientist. I regard her as one of the giants of paleomagnetism upon whose shoulders all of us stand.*

*Maureen's diverse contributions to geology never took her far from her first paleomagnetic studies of the Jurassic. Indeed, that work continues, as her contributions to this special issue demonstrate. Thus, it is indeed appropriate that in this journal, dedicated to the Jurassic, this special issue devoted to the Jurassic of the American West is dedicated to one of the foremost living students of Jurassic geology, Maureen Steiner.*

Spencer G. LUCAS