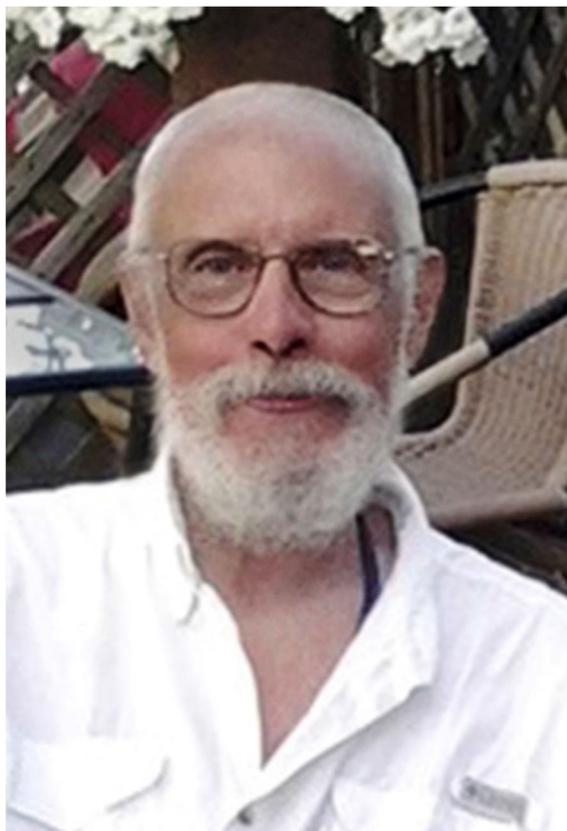


IN MEMORIAM:
ROSSMAN F. GIESE



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(1936–2020)

Rossman Frederick Giese, Jr., Professor Emeritus in the Department of Geological Sciences, State University of New York (SUNY) at Buffalo, passed away on August 1, 2020, at his home in East Aurora, New York. Ross served as President of The Clay Minerals Society (CMS) from 1994 to 1995 and hosted and organized the 20th Annual Meeting of CMS in 1983.

He was born to Edna Lloyd Giese and Rossman Frederick Giese, Sr., on January 7, 1936, as the only son of an only son in the Bronx, New York. Besides his wife, Dr. Patricia Costanzo, Dr. Giese is survived by two sons, David and Andrew Giese, by Dr. Costanzo's daughters, Rebecca Costanzo, Jennifer

Marie, and Mary Elizabeth Vogt; and by 10 grandchildren and eight great-grandchildren. Sadly, Ross was predeceased by his youngest son, Brian Giese.

Ross graduated from the McBurney School in 1951 and attended Columbia University in New York City where he received a BA in 1956, MA in 1959, and PhD in 1961. His doctoral thesis work on the crystal structure of a cobalt mineral earned him the appointment of Curator of Columbia's mineralogy museum, while he also served as a Research Associate for the Atomic Energy Commission at Columbia University.

Immediately after he finished his school commitments, he accepted a position with Carborundum Co. Research and Development Division as a Senior Research Associate in western New York. There he worked on developing and

improving the fundamental properties of numerous new refractory compositions and carbon-based materials that are still in use today. As a consultant and advisor to industry, his expertise and insights also led to improved methods for measuring the structure and behavior of minerals at high-temperatures and to determining the origins of optical defects on glass surfaces.



In 1966, Dr. Giese found his academic home and began his 50 years of service at the SUNY Buffalo, starting as an Assistant Professor then advancing through the ranks to Full Professor and Department Chair. There he consistently exhibited characteristics of a multi-faceted innovator. He conducted studies into permafrost modeling; the mineral origin of life; defects in the crystal structures of kaolin minerals; hydration and other interfacial forces at clay-mineral surfaces; the surface tension properties of solid materials, even in powder form; and rates and extent of adsorption, as well as the conformation, of

organic materials on clay minerals, including proteins and biomaterials used in transplants.

He was a strong proponent of collegiality in the Department among faculty, staff, and students, and was often the catalyst for informal gatherings which forged many lifelong friendships. Numerous tributes have been written by those whom he taught and supervised and with whom he collaborated. A common theme among these tributes is his kindness, which caused all who knew him to hold him in the highest esteem. Other adjectives that described him well are professional, compassionate, nurturing, firm, and fair, in addition to his having a keen, dry sense of humor.

One of Dr. Giese's non-academic, geologic achievements was his intervention in 1999 into saving the restoration of the newly discovered historic Erie Canal terminus (the Commercial Slip). The Empire State Development Corporation (ESDC) wanted to rebury the Slip and build a replica next to it. Concerned that the arguments against the restoration of the terminus were not based on sound science, Dr. Giese intervened, examined the rocks that lined the Slip, and identified the rock as dolomitic limestone from the Onondaga Limestone Formation. He explained that this rock is 400 million years old and underlies and supports large parts of Buffalo. Dr. Giese noted that nothing has happened to this rock in the 60 years since the road project ended, and nothing will happen to the rock for many hundreds or thousands more years. Thus, Dr. Giese factually and successfully contradicted the ESDC which said these rocks, if exposed to Buffalo winters, "will deteriorate rapidly and would indeed blast apart," thus saving this historic site that is part of Buffalo's Erie Canal heritage.

His last paper, submitted in July 2016, reported a mineralogical study of some black shales of western New York. By examining illite-smectite diagenesis, the degree of metamorphism (Kübler analysis), and the total organic carbon (TOC), he concluded that the Dunkirk and Hume formations could be interpreted as source rocks; moreover, they could be suitable exploration targets. At that time, he believed in the potential of fracking and that natural gas would help reduce the use of oil and coal.

The Clay Minerals Society has lost one of its giants. He will be missed greatly. We are grateful for the legacy of his scientific record which illuminates all who study and ponder his many contributions, and our memories are enriched by reflections of times past when his thoughtful comments, questions, and conversations graced our meetings.

—Pat Costanzo and Joseph W. Stucki