



Gesner Medal

(AGS Colloquium, online, February 2021)

In 2003, Dr. Erwin Zodrow (Cape Breton University) was recognized by NSERC for 25 Years of Research Excellence. Since that time Erwin has continued to be a productive research scientist, publishing extensively in his later years. Since Erwin began his research career in 1968, he has obtained over sixty research grants with a total value of nearly \$600,000, including \$180,000 from NSERC in Discovery Grants and Conference Support between 1990-2006. Throughout his career his research remained rooted in palaeobotany studies focused on the Sydney Coalfield.

A list of Dr. Zodrow's publications indexed in GeoRef back to 1984 includes over 100 peer-reviewed papers, with almost 50% of these published in international journals such as the International Journal of Coal Geology, Review of Palaeobotany and Palynology, and Palaeontographica. Erwin has also published nine papers or reports in Atlantic Geology.

Through his research Dr. Zodrow has established a detailed baseline documentation of the palaeobotany of the Sydney Coalfield, advanced geoscience of the region and international palaeobotany community. Having developed a baseline collection of 15,000 fossils representative of the Sydney Coalfield, he used these fossils for advanced studies of Carboniferous plants, including morphological, chemical, and chemometric analyses. His collection includes representative coal balls from defined stratigraphic horizons of then active coal mines, as well as coalified compressions and unique specimens showing unknown modes of fossil-plant preservation. Zodrow's fossil collection would be difficult if not impossible to duplicate.

As further evidence of Erwin's research impact, his Research Gate score is an astounding 37.5 with new papers still being published. Dr. Zodrow's research demonstrates that the unique chemical and sedimentological conditions of Sydney Coalfield have resulted in spectacular fossil preservation of plant soft tissue, with 2% of these plant fossils having preserved cuticle through a process of maceration. This preservation provides unique opportunities to study the detailed microstructure of plants during the Coal Age. Prof. Zodrow's research approach have resulted into a new, detailed, and unprecedented way to study fossil plants, including chemical, biomechanical, and physiological properties of the Sydney coal-swamp plants. In fact, and through the new study methods developed by Prof. Zodrow, fossil plants from Sydney Coalfield have come alive again!

Born in Germany in 1934, Erwin moving to Canada at the age of twenty, and graduated with a BSc from St. Francis Xavier University in 1962. After a brief time as a mine geologist in Labrador, Erwin completed a Masters of Mineral Economics at Pennsylvania State in 1968. Erwin was made Assistant Professor of what is now Cape Breton University in 1970 and completed a PhD (Geology) in Applied Statistics from the University of Western in 1973. Dr. Zodrow was designated as a Research Associate of the Nova Scotia Museum in 1977, a title he held with pride for over twenty years. Zodrow retired as Full Professor and Appointed Emeritus in 1999. Erwin has continued to create and publish new research, authoring fifty papers since his retirement.

As a Research Associate of the Nova Scotia Museum, Erwin established his reference collection of plant fossils and invited ... to Nova Scotia. This work resulted in the publication of the book Upper Carboniferous fossil flora of Nova Scotia in 1984 with McCandlish. Another book, An amateur's guide to coal-plant fossils on Cape Breton Island, published by Cape Breton University Press in 2001 is a valuable resource for university level education and future development of the collection.

Erwin was also a pioneer in distance education. In 1978, he developed a five-part television series on the palaeontology of the Sydney Coalfield that was broadcast CTV television show University of the Air. In 2005, Erwin Zodrow was also awarded recognition in the Discovery Centre Hall of Fame. A short documentary video based on this award is available online <https://www.youtube.com/watch?v=xyWfSOu7t9A>.

Through the discoveries and achievements attained by Dr. Zodrow we find a role model of a career devoted to a focused analysis of regional palaeontology that has advanced international science of palaeobotany. I am pleased to offer this nomination of the AGS Gesner Medal to Prof. Dr Erwin Zodrow.

Tim Fedak, PhD - Curator of Geology, Nova Scotia Museum.



Left: Dr. Erwin Zodrow, 1977. Right: Dr. Erwin Zodrow stands in front of his field notebook holder that proudly displays his affiliation as a research associate with the Nova Scotia Museum, June 2019.