



**AGS Distinguished Scientist Award. Gesner Medal 2006  
Barrie Clarke**

Barrie's ground-breaking research on the Tertiary basalts of Baffin Bay and their counterparts in Greenland, on which he started publishing in 1967, made a significant impact on the then burgeoning theory of plate tectonics and the evolution of the North Atlantic, and continues to be cited in the literature.

Although with a strong background and interest in experimental mineralogy and basalt petrology, his research took an important turn when he realized the monumental size and complexity of the South Mountain Batholith (SMB) in his backyard, the largest granitoid batholith in the Appalachians.

His supervision of student theses starting with the MSc by Colin B. McKenzie and the BSc Honours thesis by Rebecca Jamieson, both completed in 1974, initiated an almost continuous chain of SMB studies involving students, which continues to this day. In 1980 he published with Sandra Barr and Howard Donohoe an examination of plutonic rocks in Nova Scotia (in Virginia Polytechnic Institute Memoir). And, in 1981 Barrie published a review of peraluminous granites in the Canadian Mineralogist.

Although he continued to do research and publish profusely on the mineralogy and petrogenesis of mafic and ultramafic rocks (for instance on the occurrence of a potassium - iron - nickel sulphide in nodules in kimberlite), his CV lists more than 40 refereed journal publications on Nova Scotia granitoids alone. As one of his former students (Mike MacDonald, now Manager of Geological Mapping and Geochemistry with the Nova Scotia Department of Natural Resources) puts it: Barrie "has brought these rocks from pink blobs on maps to arguably some of the best studied igneous rocks on the planet". This legacy of work on peraluminous granites has made the South Mountain Batholith a familiar name throughout the world; also it has attracted countless geoscientists to Nova Scotia, including international participants in various field excursions and workshops led by Barrie. Beyond the plutonic rocks themselves, he has added fundamental knowledge about the makeup of the Meguma Lithotectonic Zone.

As rightly expressed by Becky Jamieson (Carnegie Professor of Earth Sciences, Dalhousie University): "peraluminous granites pose particularly difficult petrogenetic puzzles, because of the need to consider both mantle and crustal melting processes and the difficulty of separating the petrological signature of the magma from that of its source and/or host rocks." Barrie has demonstrated that it is possible to work systematically through the intricacies of the problem to arrive at robust answers that offer general insight into the underlying processes." In a paper on "Magmatic Andalusite" published in the Journal of Petrology in 2005, Barrie is the first of 26 co-authors, an example of the respect in which he is held by petrologists on several continents and an indication of his leadership ability. Dr. Ron Vernon, Emeritus Professor at Macquarie University, Sydney, Australia, and a renowned igneous petrologist writes: "Dr. Clarke is not only an acknowledged expert on the igneous petrology of Nova Scotia but is unquestionably among the world leaders in granite petrology. He is one of the two or three world experts in the petrology of aluminous ("S-type) granites and has proved himself to be a master of granite petrology in so many ways...."

Barrie is first and foremost an inspired and inspiring teacher. He is one of the most demanding teachers I know, not tolerating anything less than a superior and timely performance, yet this stand has won him the indisputable respect and admiration from generations of students. He has shared his knowledge with enthusiasm and dedication, motivating hundreds of Atlantic Canada's students to wanting to know more about igneous rocks in general and Nova Scotia's igneous rocks in particular. And there is no indication that he is slowing down, as shown by his willingness to lead still another student field trip to the active volcanoes of Italy in May 2006. And as one of his current graduate students (Saskia Erdmann) reminds us, Barrie has always been committed to introducing the geology of Nova Scotia to the public, by giving guest lectures in schools, organizing field trips for laymen, and through popular publications.