STUDENT POSTER SESSION COMPETITION

The Poster Committee and Awards Committee have worked together to find student presenters for a poster session to be held immediately prior to our April 22nd dinner meeting. The Awards Committee will select the best posters and present cash awards totalling $250. The following students will present posters:

University	Student	Title
Rice	Pablo Eisner	Tectonostratigraphic Evolution of the Neuguean Basin, Argentina
Lamar	Pamela F. Borne	Monitoring Changes in a Sediment-Starved Texas Beach Following the Removal of an Erosion-Prevention Structure
UT	K. D. Apperson	Mechanical Models of Compressional Fault-Related Folds: Controls on Deformation and Internal Stress
UH	A. M. Therriault W. U. Reimold	Field Studies of Bronzite Granophyre, Vredefort Structure, South Africa
UH	R. T. Beaubouef P. F. Rush	Diagenetic Framework for Chemical Remanence Acquisition in Lower Paleozoic Carbonate Rocks from W. Newfoundland

STUDENT POSTER SESSION COMPETITION ABSTRACTS

DIAGENETIC FRAMEWORK FOR CHEMICAL REMANENCE ACQUISITION IN LOWER PALEOZOIC CARBONATE ROCKS FROM W. NEWFOUNDLAND

By R. T. Beaubouef and P. F. Rush

The Lower Ordovician (Tremadocian) St. George Group on Port au Port Peninsula forms part of the Cambro-Ordovician autochthonous carbonate sequences of W. Newfoundland. The geology and stratigraphy of the St. George Group indicates that these rocks have been subjected to distinct uplift and exposure events and their petrographic characteristics suggest a complex diagenetic history. The fabrics of these rocks range from those of relatively pristine limestones to diagenetic dolomites and dedolomites with only relict depositional textures. Paleomagnetic and rock magnetic data show that there are two generations of hematite that record separate magnetization events in these strata, and also indicate the presence of magnetite. The hematite is shown to be diagenetic, occurring in association with karst fabrics and dedolomitization and as an alteration product of pre-existing sulfide minerals. Three components of remanence are observed in these rocks: 1) a recent overprint, 2) a Late Paleozoic remagnetization, and 3) an Ordovician (but not depositional) magnetization. The recent component is best explained as a viscous overprint. The Late Paleozoic component is contained in hematite, while the Early Paleozoic (Ordovician) component is found to be contained in both magnetite and hematite.

Paleomagnetic, petrographic, geochemical, and geologic evidence will be presented that indicates both Paleozoic components record chemical remanent magnetizations associated with subaerial exposures of the ancient continental shelf during at least two distinct times in the Paleozoic. Given the observed range of petrographic and magnetic variability, it appears that during the (Early - Middle ?) Ordovician, the lower St. George rocks underwent relatively rapid diagenesis including lithification, calcite cementation, sulfide precipitation, dolomitization, dedolomitization, and hematite authigenesis. The Late Paleozoic component appears to represent a remagnetization component also associated with dedolomitization and hematite authigenesis and cementation. Perhaps more importantly, rock samples bearing hematite as the major remanence phase can be petrographically identical to one another, yet carry distinct directional components acquired at different times in geologic history.