Fulgentius N. Lugemwa, Associate Professor

**Report of Advisory Board Grant Activity**

**Title:** Design and Synthesis of Unusual Amides

The main objective of this research was to make four new amides (A, B, C, and D). The starting compound contains two reactive groups (-NH2 and -OH). The strategy was to vary reaction conditions so that only the amino group (NH2) would react. The amino group (-NH2) was expected to be more reactive and such the reaction would have been selective. The reaction to make the first set of amides A and B proceeded smoothly in tetrahydrofuran as solvent at room temperature. However, the reaction mixture for amide A was complex, resulting in the separation of the desired product, using conventional purification protocol- difficult and time consuming. The reaction to make B was much cleaner and the product was purified by crystallization. The structures of both A and B have been determined by spectroscopy.

 

The reactions to produce C and D have not yet been successful. Different reaction conditions (temperature, amounts, rate of addition of one reactant to another, and stirring vigorously during the reaction) produced reaction mixtures that were difficult to separate in all cases. Other variations to the reaction system, including the use of mixed solvents will be tried in order to make C and D in pure form. A manuscript to report our initial findings is in preparation.

 