

1035-M1-1591 **D. Brian Walton*** (waltondb@jmu.edu), Department of Mathematics and Statistics, MSC 1911, Room 110, Harrisonburg, VA 22807. *Biological Applications Illustrating Linear Algebra Concepts.*

The 2005 MAA report *Math & Bio 2010* includes a call for providing more biological examples in mathematics courses and increased biological training of mathematicians. Biology provides rich examples for applications of basic linear algebra concepts. A particularly rich example, matrix models for population growth, demonstrates systems of linear equations, matrix-vector multiplication, matrix powers, the inverse matrix, and eigenvalue-eigenvector problems. Each of these applications have very natural biological interpretations that strengthen the mathematical concepts. This talk will introduce some simple biological examples, including matrix models for population growth, that can be easily introduced in a standard linear algebra course. Specific connections to linear algebra concepts will be emphasized. Ideas will be presented on how these examples might be introduced in a variety of ways, including their use in lectures, outside readings, problems, and longer student projects. (Received September 20, 2007)