

1035-B1-1967 **Rama Viswanathan*** (ramav@beloit.edu), Beloit College, 700 College Street, Beloit, WI 53511, and **Gretchen A. Koch** (gretchen.koch@goucher.edu), Goucher College, 1021 Dulaney Valley Road, Baltimore, MD 21203. *Multiple Visualizations of Quantitative Biology: The ESTEEM Collection.*

This paper presents details of the Biological Excel Simulations and Tools for Exploratory, Experiential Mathematics (ESTEEM)—an extensive collection of curricular materials and software in mathematical biology developed by BioQUEST (directed by John Jungck, Beloit College) with funding from NSF, EPIC, and the HHMI Digital Scholars program. Excel was chosen as the general development environment because most scientists have it on their desktop computers and use it for data collection and organization. Excel has powerful functions in matrix algebra, statistics, finite difference equations, and simple ordinary differential equations. Since parameters are so easy to change in Excel and it is easy to import data from heterogeneous resources, our modules are adoptable, adaptable, extensible, flexible, and utilitarian for students. A primary goal of the collection has been to showcase elementary applications of mathematics across the general biology curricula through extensive use of simulations, tools, and databases.

References:

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Ten Equations that Changed Biology: Mathematics in Problem-Solving Biology Curricula. John R. Jungck. Bioscene: Journal of College Biology Teaching (May 1997). (Received September 21, 2007)