Appendix 1: Selected Additional Resources on Biomathematics Education for Undergraduates

Reports and Research Papers:

Elser, J.J. and Hamilton, A. (2007) Stoichiometry and the New Biology: The Future Is Now. *PLoS Biol* 5(7): e181. http://www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.0050181;jsessionid=09D092CD1BACE8C606DCC65AEC861C17#s1 (accessed June 8, 2010)

Gross, L.J. (2004). Interdisciplinarity and the undergraduate biology curriculum: finding a balance. *Cell Biology Education* **3**:85-87. http://www.lifescied.org/cgi/content/full/3/2/85?maxtoshow=&hits=10&RESULTFORMAT=1&author1=gross&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT,HWELTR (accessed June 8, 2010)

Gross, L. J. (2000). Education for a biocomplex future. *Science* **288**:807. http://www.sciencemag.org/cgi/content/short/288/5467/807 (accessed June 8, 2010)

Kohler, B.R., Swank, R.J., Haefner, J.W., and Powell, J.A. (2010). Leading Students to Investigate Diffusion as a Model of Brine Shrimp Movement. *Bulletin of Mathematical Biology* Volume 72(1): 230-257. http://www.springerlink.com/content/945976881150748t/ (accessed June 8, 2010)

Microsoft Research. (2006). *Towards 2020 Science*. http://research.microsoft.com/en-us/um/cambridge/projects/towards2020science/downloads.htm (accessed June 8, 2010)

Microsoft Research. (2009). *The Fourth Paradigm: Data-Intensive Scientific Discovery*. http://research.microsoft.com/en-us/collaboration/fourthparadigm/ (accessed June 8, 2010)

National Science Foundation (2008). *Fostering Learning in the Networked World: The Cyberlearning Opportunity and Challenge; A 21st Century Agenda for the National Science Foundation.* Report of the NSF Task Force on Cyberlearning. NSF08204. Arlington, VA: Author. http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf08204 (accessed June 8, 2010)

Nelson, K. C., Marbach-Ad, G., Schneider, K., Thompson, K.V., Shields, P.A., and Fagan. W.F. (2009). MathBench Biology Modules: Web-Based Math for All Biology Undergraduates. *Journal of College Science Teaching* March/April, pages 34-39. http://www.accessmylibrary.com/article-1G1-197488998/mathbench-biology-modules-web.html (accessed June 8, 2010)

Sidlauskas, B, Ganapathy, G., Hazkani-Covo, E., Jenkins, K.P., Lapp, H. , McCall, L.W., Price, S., Scherle, R , Spaeth, P.A., and Kidd, D.M. (2009) Linking Big: The Continuing Promise of Evolutionary Synthesis. *Evolution* 64(4):871-880. http://www3.interscience.wiley.com/journal/122678930/abstract?CRETRY=1&SRETRY=0 (accessed June 8, 2010)

Robeva, R., and Laubenbacher, l. (2009). Mathematical Biology Education: Beyond Calculus. *Science* 325: 542-543. http://www.sciencemag.org/cgi/content/short/325/5940/542 (accessed June 8, 2010)

Robeva, R. (2009). Desegregating undergraduate mathematics and biology - interdisciplinary instruction with emphasis on ongoing research. In *Methods in Enzymology*, v. 454, Computer Methods, Part A, M. L. Johnson and L. Brand, Editors. Elsevier.

Websites (listed alphabetically by name):

Biological ESTEEM Project (Excel Simulations and Tools for Exploratory, Experiential Mathematics)
(http://bioquest.org/esteem/)

Board on Life Sciences, National Research Council
(http://www.nationalacademies.org/bls)

CC Science Commons: The Health Commons
(http://sciencecommons.org/projects/healthcommons/)

Connexions
(http://cnx.org/)

Genome Consortium for Active Teaching (GCAT)
(www.bio.davidson.edu/GCAT)

National Academies Summer Institute on Undergraduate Education Biology
(http://www.academiessummerinstitute.org/)

National Institute for Mathematical and Biological Synthesis (NIMBioS)
(www.nimbios.org)

NUMB3R5 COUNT (Numerical Undergraduate Mathematical Biology Education …)
www.bioquest.org/NumbersCount/

OER (Open Educational Resources) Commons
(http://www.oercommons.org/)

Open BioInformatics Foundation
(http://www.open-bio.org/wiki/Main_Page)

Open Science Network
(http://www.opensciencenetwork.net/)

Open Science Project
(http://www.openscience.org/blog/)

Open Source Bioinformatics
(http://www.slideshare.net/bosc/an-open-source-framework-for-teaching-bioinformatics)

OpenWetWare (promotes sharing of information, know-how, and wisdom among researchers and groups who are working in biology & biological engineering)
(http://openwetware.org/wiki/Main_Page)

University of Maryland MathBench Biology Modules
(http://www.mathbench.umd.edu/index.html)

U.S. National Committee to the International Union of Biological Sciences (USNC/IUBS)
(http://sites.nationalacademies.org/PGA/biso/IUBS/index.htm)