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George T Yates* (gyates@ysu.edu), Mathematics and Statistics, One University Plaza, Youngstown, OH 44555. *Research by Undergraduates in Mathematical Biology: Modeling Cellular Processes in Bioremediation and Biofuels.*

A program in Mathematical Biology and Undergraduate Research (MBUR) at Youngstown State University teams biology and mathematics student to conduct genuine research under the joint mentorship of faculty members in mathematics and in biology. The program uses a combination of courses, intensive summer research and sustained involvement to educate and motivate the students. During 2012 student research projects included (1) mathematical modeling and analysis of the growth and butanol production of *Clostridium beijerinckii*, and (2) examination of the cellular breakdown of toxins and the proteins involved in the selenite resistance of *Stenotrophomonas maltophilia* ORO2. In the last year students gave more than eleven oral or poster presentations of their findings at local, regional, national and international conferences. The program was funded by NSF grant DBI-0827205. (Received September 24, 2012)