1014-Y3-1749 **Carlos Castillo-Chavez*** (chavez@math.asu.edu), Mathematics and Statistics Department, Arizona State University, P.O. Box 871804, Tempe, AZ 85287. *Research as the driver of increase diversity in undergraduate and graduate applied mathematics programs.*

Research through appropriately planned research experiences for undergraduates and graduate students in mathematics should be a way of life and not just a summer activity. The Mathematical and Biology Institute has been promoting this approach via student generated research programs over the past 10 years. Graduate, undergraduate students and faculty carry out joint research for multiple summers on student generated scientific projects, that is, on projects where the faculty tends to have limited expertise at best. This makes the faculty a true collaborator and an equal partner in the process. Participants have generated over one hundred research technical reports (some published in refereed journals) addressing topics like bipolar disorder, bulimia, ecstasy use, migration of Monarch butterflies, HIV and SARS. MTBI has motivated the enrollment of about twelve students per year in graduate schools in mathematical sciences. Typically, eight to ten underrepresented minority students follow this path as well as four to six non-minorities. This year eight of underrepresented minorities completed a Ph.D. in the mathematical sciences after participating in this program several summers. We expect a similar outcome next year. (Received September 29, 2005)