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Multidisciplinary research and training for enhancing teaching and learning of undergraduate mathematics. Preliminary report.

The talk will help identify the importance of fostering integration of interdisciplinary research in the undergraduate mathematics curriculum. More specifically, we will describe how one can employ mathematical modeling, analysis and simulation techniques from undergraduate mathematics to explain fundamental mechanisms underlying real-world problems, thereby enhancing the effectiveness of teaching and learning of undergraduate mathematics. Some experiences of directing and coordinating a multidisciplinary undergraduate research and training program will also be presented. (Received September 20, 2007)