

Colloquium

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Developing Undergraduate Research Problems in Mathematics

Many of my undergraduate students (even the math majors!) believe that mathematics is a dead subject and that "all one can do with a math degree is teach". Undergraduate research offers a direct confrontation to this myth, allowing energetic undergraduates to explore open questions and contribute to solutions. In exploring open questions, undergraduates gain an appreciation for mathematics as a vibrant, growing discipline.

In this talk I will discuss the development of good undergraduate math research problems. I will give examples of good problems, beginning with a problem that requires no mathematical training and progressing to problems that require a more rigorous math background. Along the way, I will tell a few stories of my experiences directing undergraduate research and I will attempt to convince the audience that this is an exciting mathematical enterprise!

This talk does not assume any mathematical background. Anyone interested in improving undergraduate education is invited.