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37212. *From Student to Scholar: Growing an Undergraduate Research Program in Mathematics.*

This presentation will discuss the merits of an applied research methodology for increasing student interest and productivity in undergraduate research. This program includes a blending of traditional mathematical research with a broader interdisciplinary research focus. The central aim of the program is help students move into personalized scholarship through the synthesis of traditional foundational research skills, greater accessibility to wide-ranging math research experiences, and scholarly mentoring. We will examine the benefits and challenges of the relationship between more traditional mathematical research and that of interdisciplinary research environments through a variety of examples. Some of the types of research projects we will discuss include a study of tropical geometry, an evaluation of the function of the current history of mathematics methodologies, an argument for a geometric algebra approach to teaching physics, and a scholarship of teaching and learning project focused on implementing tools for improved student confidence in communicating mathematics. (Received September 19, 2021)