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**Undergraduate research: A win-win for both students and faculty<sup>1</sup>**

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Undergraduate students benefit significantly from opportunities to do research with faculty, both at predominately undergraduate institutions (PUIs) and also at major Research I universities. If done well, these research opportunities can also benefit the faculty mentor, especially at PUIs with heavy teaching loads. In fact, the experience works best for the student if it also benefits the faculty. In this talk, I will discuss my experiences working with undergraduate research students, some of whom have been as productive as advanced graduate students. I will discuss situations where things have worked very well for everyone concerned, as well as some mistakes that I made in the past that resulted in bad research experiences. This discussion will be provided in the context of an experimental program in nonlinear dynamics, a field that is well-suited to participation by undergraduates.

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