

Abstract Submitted
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Toward Better Physics Labs for Future Biologists JOHN GIANNINI, KIM MOORE, WOLFGANG LOSERT, University of Maryland College Park — We have developed a set of laboratories and hands on activities to accompany a new two-semester interdisciplinary physics course that has been successfully developed and tested in two small test classes of students at the University of Maryland, College Park (UMD) in 2012-2013, and is currently being used on a wider scale. We have designed the laboratories to be taken accompanying a reformed course in the student's second year, with calculus, biology, and chemistry as prerequisites. This permits the laboratories to include significant content on physics relevant to cellular scales, from chemical interactions to random motion and charge screening in fluids. One major focus of the laboratories is to introduce the students to research-grade equipment and modern physics analysis tools in contexts relevant to biology, while maintaining the pedagogically valuable open-ended laboratory structure of reformed laboratories. Lab development procedures along with some preliminary student results from these two small test classes are discussed.

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