

Abstract for an Invited Paper  
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**Hands-On Education at the Interface Between Physics and Biology**

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Students from across the physical sciences and their partner engineering disciplines are clamoring to learn about the amazing advances being made in the life sciences. Often, they wonder how they might use their quantitative background productively in the study of living matter. In this talk, I will draw from my own experiences in teaching a host of different courses ranging from freshman biology for non-biology majors to graduate courses in biophysics to intense summer courses such as the Physiology Course at the Marine Biological Laboratory at Woods Hole. My central thesis will be that the best way to learn about the biology-physics interface comes from intense, hands-on courses in which students do experiments to get a feeling for the numbers in biology and to develop a clear idea of how to perform measurements and what to do with them once they have made them. Though the talk will attempt to comment on the significance of these experiences for other students, in the end, the student who has been touched the most by this hands-on approach is the speaker himself.