

Abstract for an Invited Paper  
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**Hands-On Experimentation in the Fluid Mechanics Classroom as Homework<sup>1</sup>**

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In an introductory fluid mechanics course, it is important for students to realize that the mathematical models they are deriving sometimes model the real world well and sometimes not so well. One way to show them is to have them model a simple experiment, then run the experiment and compare the results of the model to that of the experiment. This helps them understand the importance of the model assumptions and the applicability of the model. It would be even better if these experiments were simple enough that students could do them at home as a homework assignment, rather than have a “canned” 2 hour lab course. We are collecting these simple experiments in an effort to build a community of educators that want to move beyond the traditional mathematical exercises for homework. In this presentation, we will outline a number of these experiments and how they can be used in undergraduate or K-12 classes. We will also present some methods of using Gallery of Flow Images in the classroom as well to give the students the opportunity to see “Fluids in Action.” Finally, we will introduce Gallery of Home Work Problems for fluid dynamics students.

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