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Teaching fluid mechanics to high schoolers: methods, challenges, and outcome HARISHANKAR MANIKANTAN, University of California, Santa Barbara — This talk will summarize the goals, methods, and both short- and long-term feedback from two high-school-level courses in fluid mechanics involving 43 students and cumulatively spanning over 100 hours of instruction. The goals of these courses were twofold: (a) to spark an interest in science and engineering and attract a more diverse demographic into college-level STEM programs; and (b) to train students in a ‘college-like’ method of approaching the physics of common phenomena, with fluid mechanics as the context. The methods of instruction included classes revolving around the idea of dispelling misconceptions, group activities, ‘challenge’ rounds and mock design projects to use fluid mechanics phenomena to achieve a specified goal, and simple hands-on experiments. The feedback during instruction was overwhelmingly positive, particularly in terms of a changing and favorable attitude towards math and engineering. Long after the program, a visible impact lies in a diverse group of students acknowledging that the course had a positive effect in their decision to choose an engineering or science major in a four-year college.

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