APR20-2020-000239

Abstract for an Invited Paper for the APR20 Meeting of the American Physical Society

Challenges in Computational Physics Education HARVEY GOULD, Clark University

How can we teach computational physics when many students can hardly do algebra? How can we take advantage of the supercomputer in our phones? To what extent should students write their own programs? Can we make programming, especially input and output, easier? How can we incorporate powerful software packages such as the LAMMPS molecular dynamics simulator and the Open Source Physics curricular material and into our teaching? Can we use computation to make physics more relevant to other disciplines without losing what makes thinking like a physicist special? How can we sustain the development of open source projects as the original developers retire? I have more questions than answers, but hope to spur discussion on these questions and others.