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The Partnership for Integration of Computation into Undergraduate Physics (PICUP): A Community-Building Prototype for Positively Affecting the Undergraduate Physics Curriculum¹

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Computation in the undergraduate curriculum is gaining significant traction in physics departments across the country, including a burgeoning effort to integrate computation into individual physics courses, both introductory and advanced, in such a way that it plays a role that is as important as non-computational mathematics in two important educational areas: (i) providing a deeper conceptual understanding of physical principles, and (ii) problem-solving. The Partnership for Integration of Computation into Undergraduate Physics (PICUP), an informal group of physics faculty from around the country, is committed to building a community of STEM educators dedicated to integrating computation into the undergraduate curriculum. One of the cornerstones of the PICUP community-building efforts is a significant online component. In this presentation, I shall describe the PICUP community-building framework, and the unique educational materials development effort that has already attracted much interest amongst physics faculty at all levels of computational physics education experience.

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