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Abstract for an Invited Paper
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Using Few-Body Systems to Promote Diversity[1]

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My work is almost exclusively computational using high performance computers and modern partial differential equation techniques such as finite, spectral and pseudo-spectral elements, applied to Few-Body Systems (FBSs). My entire career has been spent at Florida AM University (FAMU), an Historically Black (College/) University (HBCU). I progressed from postdoctoral fellow, to Professor of Physics (leading the establishment of a Physics PhD program at FAMU in 2001), to Vice President for Research. I have involved undergraduate and graduate students in the research throughout my career and have produced three PhD graduates and I expect a fourth PhD graduate in 2021, in the field of quantum computing. Computational FBSs are an ideal research topic for students in a small physics department where the resources are typically constrained. The use of high-performance computers and modern computational methods has infiltrated the undergraduate physics curriculum and high-quality calculations on FBSs are the ideal application test-bed for these undergraduate courses. I have recently studied various aspects of Density Functional Theory applied to High-Energy Density Science (HEDS), with the aid of the NNSA (National Nuclear Security Agency) and Lawrence Livermore National Laboratory, and have found HEDS very appropriate for PhD research.

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