**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 8: OpenACC**

**Lesson 3: N-Body Mechanics in OpenACC**

**Exercise Instructions for Students**

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•Investigate how the problem scales with size:

•if the number of bodies increases does the speedup increase or decrease? How does the code scale for a problem 2 times larger?

•What about with the number of time steps, Ntimes.

•You can also insert OpenACC pragmas controlling the vector and size on the parallel loops, can you improve performance by manually tuning the parameters?