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

**Unit 5: MPI**

**Lesson 11: Wave Propagation in MPI**

**Sample Assessment**

*Developed by R. Phillip Bording for the Shodor Education Foundation, Inc.*

* What computer architecture features are needed for MPI.
* What is algorithm complexity?
* Why do compute intensive loops need speedup?
* What is the main difference between MPI and OpenACC/OpenMP?
* Describe a scenario or scientific application that could benefit from MPI.
* Which compilers and operating systems support MPI and what are the advantages of using message passing – can a program really need/use more memory than that of a single node?



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*We want to hear from you! Please let us know your experiences using this material by sending email to* [*petascale@shodor.org*](mailto:petascale@shodor.org)