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

**Unit 5: MPI**

**Lesson 4: Performance Evaluation of MPI Programs**

**Instructor Guide**

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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)

**Common Pitfalls for Students and Instructors**

1. Depending on when this lesson is used for teaching or learning, OpenMPI library implementation might have changed. Most of the time main MPI communication routines will stay the same and have the same naming conventions. However, it's possible that the developers will modify some routines such as those for error handling or MPI data types. Therefore, both instructors and students are encouraged to check the [MPI library documentation](https://www.open-mpi.org/doc/) for updates.
2. Deadlocks are the most common errors when using MPI caused by synchronous or blocking send/receive functions. One could either fix the issue by changing the order of operations, or use the non-blocking implementation of the same communication routines provided by MPI library.