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

**Unit 8: OpenACC**

**Lesson 4: Solving the Heat Equation via Jacobi's Method**

**Instructor Guide**

*Developed by Justin Oelgoetz for the Shodor Education Foundation, Inc.*



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*Browse and search the full curriculum at*[*http://shodor.org/petascale/materials/semester-curriculum*](http://shodor.org/petascale/materials/semester-curriculum)

*We welcome your improvements! You can submit your proposed changes to this material and the rest of the curriculum in our GitHub repository at*[*https://github.com/shodor-education/petascale-semester-curriculum*](https://github.com/shodor-education/petascale-semester-curriculum)

*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)

Before using this lesson, you should review the slides and content. You should also make sure the code compiles on the machines you will be using and perhaps provide a make file appropriate to the machine.

**Common Pitfalls for Students and Instructors**

None are known at this time, however science students will likely have issues with some of the programming details such as registered pointers and the details of sparse matrix storage. Computer science students might have more difficulty understanding the purpose of the code, and what it is doing.