



### What is Chapel?

- A new parallel language being developed by Cray Inc.
- Part of Cray's entry in DARPA's HPCS program
- Main Goal: Improve programmer productivity
  - Improve the programmability of parallel computers
  - Match or improve upon the performance of current prog. models
  - Provide better portability than current programming models
  - Improve robustness of parallel codes
- Target architectures:
  - multicore desktop machines
  - clusters of commodity processors
  - Cray architectures
  - platforms from other vendors
- A work in progress







## **The Chapel Team**

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#### Interns

- Robert Bocchino (`06 UIUC)
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### Alumni

- David Callahan
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- John Plevyak
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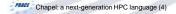






### **Goals For Today**

- Provide an overview of next-generation HPC languages
- Introduce you to the Chapel language in depth
- Give you experience...
  - ...using the Chapel compiler
  - ...writing Chapel code
- Get your feedback on the language and compiler
- Point you toward resources to use after today
- Look for collaboration opportunities







### Who are You?

- Affiliation: academia, industry, lab, other
- Favorite language(s)
- Familiarity with C/C++/Java
- Interest in next-generation HPC languages/Chapel
- What you hope to get out of this tutorial





# **Rough Schedule**

- 9:00 Welcome
- 9:15 Chapel Background
- 9:30 Base Language
- 10:00 Coffee Break
- 10:15 Task Parallelism
- 11:15 Break
- 11:30 Data Parallelism
- 12:30 Lunch
- 14:00 Locality and Affinity
- 14:30 Status and Future Directions
- 15:00 Coffee Break
- 15:15 Hands-on Session
- 17:00 Break
- 17:15 Hands-on Session (continued)
- 19:00 Done



