Message-Passing Programming

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▶ Day 1

  – Message Passing Concepts

  – Basic MPI Programs

  – Point-to-Point Communication

  – Modes, Tags and Communicators

▶ Day 2

– Non-blocking Communication

– Collective Communications

– Virtual Topologies

– Derived Datatypes

▶ Day 3

– Case Study: Image processing

– MPI design

– Case Study (cont.) / Open Surgery

▶ A practical course to teach you to
– understand the message-passing model for parallel programming
– write parallel programs in C or Fortran using the MPI library

▶ You will learn this through
– lectures
– notes

▶ But **MOST IMPORTANTLY** by
– writing and executing example MPI programs
• each lecture has an associated practical example

▸ The MPI library is the most important piece of software in parallel programming

▸ All of the world's largest supercomputers are programmed using MPI

▸ Writing parallel programs using MPI is fun!