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

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▶ 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 the world's largest supercomputers are programmed using MPI

‣ Writing parallel programs using MPI is fun!