

Course Overview

High performance computing is all about writing efficient code that is easily spread across the multi-processor/multi-core architecture we all have (and under-use) on our desktop PCs.

Traditionally high-performance computing (HPC) has been awkward to use, requiring special libraries and message passing interfaces and only ran on expensive hardware. Now however MATLAB's Parallel Computing Toolbox has significantly lowered the barrier to enable non-specialist users to solve computationally intensive problems using multi-core processors, GPUs as found in many graphics cards, and computing clusters.

Course Highlights

The first part of the 1 day course will cover :

- (1) Compiling external C subroutines to be able to be called from MATLAB
- (2) Compiling MATLAB code to create stand-alone executables
- (3) Compiling Simulink diagrams to stand-alone executables

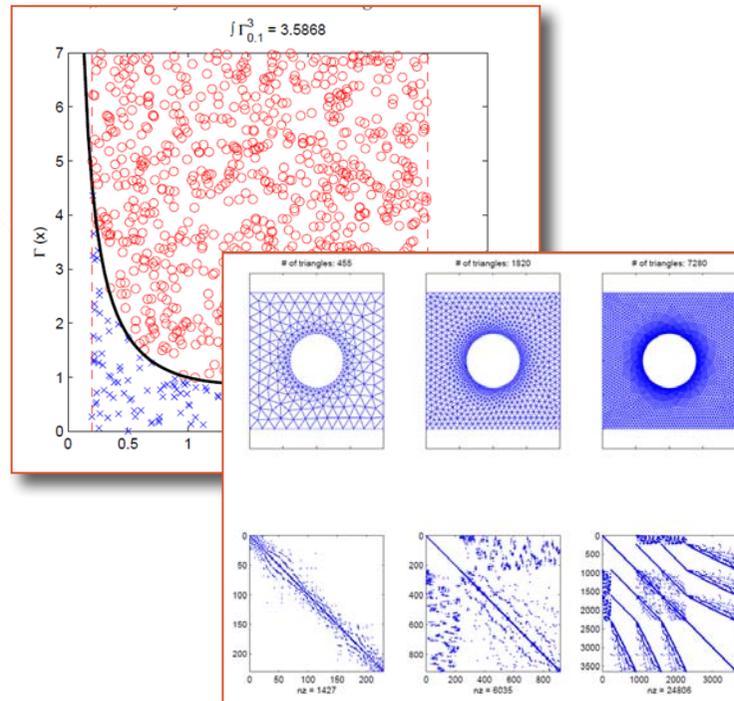
The second part of the course will cover parallel computing:

- (4) Important characteristics of parallel computing
- (5) Key concepts such single program/multiple data and parallel for loops
- (6) Using the Parallel Computing Toolbox on multi-core machines
- (7) How to speed up your MATLAB application
- (8) Programming graphical processing units (GPUs) from MATLAB

Who Should Attend

- Scientists and engineers with heavy computing needs
- Computational finance professionals
- IT professionals and Administrators
- Researchers

We recommend that you attend our introductory course in MATLAB prior to this course if you have not had any experience with MATLAB.



MATLAB and the Parallel Computing Toolbox lets you solve computationally and data-intensive problems using multi-core processors, GPUs, and computer clusters.

Benefits of using MATLAB

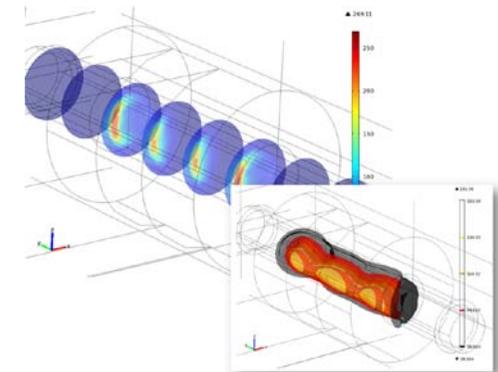
MATLAB is a software development environment that offers high-performance numerical computation, data analysis, visualisation capabilities and application development tools.

You can write statements in MATLAB and have them calculate immediately so they are tested as you go.

MATLAB provides immediate access to thousands of fundamental and speciality functions written by experts, in addition to those written by yourself or your colleagues.

MATLAB's built-in graphing tools and GUI builder ensure that you customise your data and models to help you interpret your data more easily for quicker decision-making.

Visit www.hrs.co.nz/matlab for a more detailed description.



Register online at www.hrs.co.nz/hpcmatlabtraining

On-site Training Option

We regularly train groups of people on-site in a wide variety of industries and locations spanning from government departments, financial institutions, engineering companies, and basic research groups. We make an effort to customise the courses to suit your problems and your interests.