

# NeSI Python Programming Workshop

Auckland – 5 December 2014

The University of Auckland is hosting a workshop on scientific programming delivered by NeSI, the New Zealand eScience Infrastructure. It will focus on technologies used by researchers worldwide to make the best use of High Performance Computing.

## *Learn research-friendly techniques...*

The Python programming language has gained widespread popularity over the last decade and is widely used by the research community. Python is relatively easy to learn and quickly produces prototype code thanks to a collection of third-party packages that support a wide range of research problem domains. In this workshop, we will show how easily one can optimize the performance of Python programs using Numba, enabling computational speed that can even challenge native C programs.

The participants will also learn how to scale up Python programs and take advantage of NeSI's HPC facility via Message Passing Interface (MPI). MPI is the de facto standard for parallel computing on High Performance Computing clusters, and Python's MPI implementation (mpi4py) will give a gentle parallel programming learning experience.

This will be a hands-on workshop run in a computer lab. A brief introduction to using the SLURM scheduler on the University of Auckland Pan cluster will be included. We will also look at several examples of using Python for simulation output data conversion targeting interactive visualisation in ParaView.

## *...from international experts*

Run by members of NeSI's Computational Science Team, you will learn directly from experts who work with researchers nationwide to improve the speed and size of their research.

## *Details*

The workshop is free and all researchers are welcome, including postgraduate students. Computer programming experience will be beneficial.  
20 places available (RSVPs essential)

Time: 8.30am – 12.00pm, Friday 05 December, 2014  
Location: Room 409, Building 403, 20 Symonds Street, Auckland  
RSVP: [events@nesi.org.nz](mailto:events@nesi.org.nz)

