The George Washington University
School of Engineering & Applied Science
Electrical & Computer Engineering Department

Instructor: Prof. Tarek El Ghazawi
Semester: Fall 2019
Course: ECE-6105 Introduction to HPC

Deadline: 12:00pm (Noon) 11/04/2014

Homework 4

1. Install any MPI implementation on your computer.
   - OpenMPI is one of the most common, free and open-source MPI implementation. Good resource for installing the OpenMPI packages and their dependencies for Ubuntu:

     http://lsi.ugr.es/jmantas/pdp/ayuda/datos/instalaciones/Install_OpenMPI_en.pdf

     Running the single quick command under "Quick install for Ubuntu"

2. Run the following commands on the console and take a screenshot of the output. Submit it as a PDF.

```
hostname
mpicc --version
mpirun --version
```

   Here is an example of the screenshot.

3. Write an MPI program in which every process converts n C^O to Fahrenheit, where n is the rank of the MPI process.
4. Write an MPI program that computes the dot product of two vectors. Assume that both vectors are created and initialized on process 0. Also assume that vector size is divisible by number of processes.
5. Briefly discuss the MPI specification versions published so far. Tabulate the most important feature of each version.