

# The Massachusetts Green High Performance Computing Center (MGHPCC)

Virtually every scientific and engineering breakthrough today relies on computation, as “in silico” experimentation and data analytics have become a powerful new tool for knowledge discovery, alongside theory, physical experimentation and observation. The MGHPCC provides state of the art infrastructure for computationally intensive research that is indispensable in the increasingly sensor and data-rich environments of modern science and engineering. Computers at the MGHPCC run millions of virtual experiments every month, supporting thousands of researchers in Massachusetts and around the world.

The MGHPCC operates as a joint venture between Boston University, Harvard University, the Massachusetts Institute of Technology, Northeastern University, and the University of Massachusetts. It is open for use by any research organization.

## Internship Program

The internship program at the MGHPCC is designed to provide hands-on experience for students who are interested in computers and computer science. The program includes a combination of hands-on learning in areas that may be new to a student intern, and application of current and new knowledge to tasks that are vital to the operation of the thousands of computer systems installed at the MGHPCC.

The MGHPCC internship program is now in its third year of operation. We are currently working in partnership with Holyoke Community College, Springfield Technical Community College, and TechFoundry. Students from those institutions are encouraged to apply. If you would like to add your institution to the program please contact us at [research@mghpcc.org](mailto:research@mghpcc.org). MGHPCC interns work with a variety of high performance computing hardware and software systems. Internships start with introductory reading and exercises with the Linux operating system, system administration tools, and Python scripting, and then move into hands-on work. Assignments vary depending on skills and needs. Examples include:

### **System Hardware and Software Maintenance and Administration**

- Rebooting and running diagnostics on nodes that are experiencing problems.
- Reviewing log files to look for potential problems.
- Assistance with debugging of problems, working with people who are working remotely.

### **Application software installation and maintenance**

- Building, testing, and installation of application and middleware packages for Linux clusters.

### **Hardware infrastructure maintenance and documentation**

- Assembly, installation, organization, and labeling of data cabling for networks and Linux clusters.
- Documentation of Power Distribution Unit rack assignments and other hardware.
- Setup and maintenance of experimental computer hardware in the MGHPCC “Sandbox” lab.

## **Working Hours**

Working hours are Tuesday and Thursday each week. The minimum commitment is 8 hours per week.

## **Applications**

We will be accepting applications in late fall 2019 for internship assignments that start in January 2020. If you have questions, you can send email to [research@mghpcc.org](mailto:research@mghpcc.org) or to your contact for the MGHPCC internship program at STCC, HCC, or TechFoundry.

---