FALL 2020 VIRTUAL MINI-COURSES AND WORKSHOPS

researchcomputing.princeton.edu/workshops

USING THE RESEARCH COMPUTING CLUSTERS
- Intro to the Linux Command Line
- Getting Started with the Research Computing Clusters
- Data Transfer Basics and Best Practices
- Leveraging the Advanced Capabilities of the Traverse Supercomputer

HIGH-PERFORMANCE COMPUTING (HPC)
- Performance & Vectorization
- High-Performance Python: CPUs
- A Primer on GPU Programming
- High-Performance Python: GPUs
- Parallel Programming Workshop (by Intel)

RESEARCH SOFTWARE ENGINEERING
- Good Practices for Research Software Engineering
- Floating-Point Arithmetic is Not Real
- Intro to Code Debugging
- MATLAB Profiling and Optimization

IMPROVING YOUR COMPUTING WORKFLOW
- Command Line Power Tools
- Removing the Tedium from Your Research Workflow
- Improving Analysis Workflows with Snakemake
- Intro to Version Control Using Git

MACHINE LEARNING
- Machine Learning for Your Research
- Azure Machine Learning
- Intro to the Machine Learning Libraries

USING THE CLOUD
- Learn to Speak Cloud
- Follow the Money: Best Practices for Cloud Optimization
- Azure Fundamentals

R
- Intro to Data Analysis Using R
- Intro to R Graphics Package: ggplot2
- Using R on the Princeton HPC Clusters

PYTHON
- Intro to Programming Using Python
- Intro to Data Analysis Using Python
- Python Programming Techniques
- Intro to NumPy
- Mixing Python and Compiled Code

VISUALIZATION
- How to Make Effective Plots (using R)
- How to Make Effective Plots (using Python)
- Scientific Visualization

GEOGRAPHIC INFORMATION SYSTEMS (GIS)
Workshops on QGIS and ArcGIS Pro, including:
- How to Create and Collect Geographic Data
- Select and Analyze Geographic Features and Data
- Making Maps and Presentations, and more.
See https://library.princeton.edu/collections/pumagic/workshops

To register, and for more information, visit: researchcomputing.princeton.edu/workshops

Organized by Princeton Research Computing, a consortium of campus groups led by the Princeton Institute for Computational Science & Engineering (PICSceI) and OIT Research Computing

Participating Departments: Center for Statistics and Machine Learning, Data & Statistical Services, IRIS-HEP Software Institute, Lewis-Sigler Institute for Integrative Genomics, Molecular Biology, Princeton Neuroscience Institute, Politics, Population Research, Princeton Plasma Physics Laboratory, University Library and Sociology