UF UNIVERSITY of FLORIDA
Information Technology

Research Computing Services Brochure

ACADEMIC YEAR 2015-16

UF Research Computing provides the infrastructure and staff to give high-impact research projects a competitive edge. With highly ranked computing facilities, a dedicated staff, and significant university support, Research Computing assists faculty in meeting their computational challenges necessary to compete for research funding.

UF Research Computing maintains the cluster, freeing researchers from daily headaches of hardware maintenance. In addition, we have installed and currently support hundreds of widely-used applications.

JULIE A. JOHNSON, PHARM.D.
DEAN, AND DISTINGUISHED
PROFESSOR
COLLEGE OF PHARMACY

"UF Research Computing has provided our lab with tremendous resources. Our research involves multiple 'omics datasets, from multiple clinical trials, and often explores the associations between the omics biomarkers and the clinical data.

The HiPerGator has allowed us to conduct these types of analyses here at UF, and has granted our trainees the opportunities to work with a large computing resource and many different types of software. We are very fortunate to have access to such a strong computational program here at UF."

Computation and Data Storage: HiPerGator, the University of Florida supercomputer, is a 20,000-core cluster with 2 PetaBytes of high-performance storage. The cluster includes both Intel and AMD processors, servers with up to 1 TB of memory, Nvidia GPUs, IntelMICs, IBM PureData, and other systems. Continuing its commitment to supporting researchers, in 2015 HiPerGator will expand to 50,000 cores and 3 PetaBytes.

GatorBox: GatorBox is a Dropbox-like option for sharing research data. The supporting software is ownCloud, an easy-to-use file synchronization and sharing interface. GatorBox is not for use in sharing, transferring, or storing restricted or sensitive data.

GatorVault: GatorVault is a HIPAA-compliant environment for working with ePHI (electronic protected health information) data. It is a secure, pre-approved version of a workstation where each user has a private, individualized access key. Virtual machines run on specially designed hardware in the UF Data Center and the graphical interface is securely transmitted and displayed on the user's remote device.

UFApps for Research: Virtualized versions of common research applications such as SAS and MATLAB run on HiPerGator and can be accessed from any device.

Regulatory Compliance: Research Shield, UF's FISMA "moderate" compliant environment is available for projects that need it. (shield.ufl.edu)

PSYCHOLOGY
COASTAL ENGINEERING NEUROSURGERY COLLEGE OF
PHARMACEUTICS BIOCHEMISTRY AND MOLECULAR BIOLOGY
FINANCE INSURANCE AND REAL ESTATE BIOSTATISTICS
ANTHROPOLOGY
WILDLIFE ECOLOGY AND CONSERVATION UF GENETICS
PHYSICS MATHEMATICS WHITNEY
PATHOLOGY STATISTICS EMERGING PATHOGENS INSTITUTE
PUBLIC HEALTH AND HEALTH PROFESSIONS PEDIATRICS
ZOOLOGY MEDICAL ONCOLOGY INDUSTRIAL SYSTEMS ENGINEERING
PHYSIOLOGY CHEMISTRY ENGLISH ASTRONOMY

PROPOSAL SUPPORT

Research Computing can work with PIs throughout the proposal process to provide:

» Proposal budget details for services or hardware acquisition

» Letters of support highlighting our facilities and support of researchers' facilities documentation

» Guidance on data management plans

Research Computing is happy to work with you to make your proposal more competitive. The University of Florida supports your computational needs with commitments from the Office of the Provost, the Office of the VP for Research, and the Office of the VP and Chief Information Officer. These investments make your budget stretch further.

INVESTMENT OPTIONS

Research Computing offers several options to meet your computational objectives while remaining within your project computing budget. These options can accommodate a wide-range of needs while still allowing differences in funding requirements. For a full price sheet or special needs please see rc.ufl.edu or contact us (support@rc.ufl.edu).

INVESTMENT OPTION	TOTAL COST	UNIVERSITY MATCH	COST TO PIs (2015-2016)
Long-Term 1 NCU/5 Years	$300	$100	**$200**
Billed 1 NCU/Hour	$0.04	-	**$0.04**
GPU NVIDIA K80 5 Years	$2,250	$1,750	**$500**
Storage 1TB/Year	$125	-	**$125**
Replicated Storage 1TB/Year	$250	-	**$250**

UNIVERSITY MATCHING IS BUILT-IN

Through university support, Research Computing matches all long-term compute and GPU investments. This institutional matching demonstrates to granting agencies the university's commitment to supporting research.

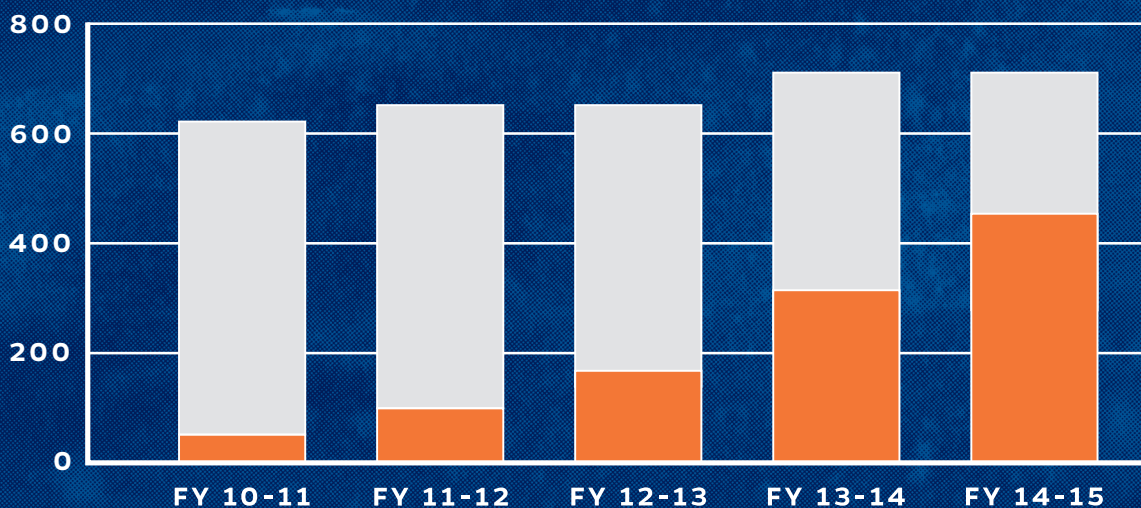## COLLABORATIONS & OUTREACH

Research Computing actively collaborates with faculty and staff across UF. In addition to assisting with proposal preparation, staff can advise faculty on new technologies that may benefit their research, guide software selection, and assist in troubleshooting software and scripts.

Research Computing staff participate in numerous faculty outreach events and are available to present at meetings or in a seminar series. Staff can also help forge partnerships with faculty across the state through the Sunshine State Education & Research Computing Alliance (sserca.org).

HEALTH OUTCOMES AND POLICY
UF LIBRARIES
EDUCATION
INFORMATION SYSTEMS AND OPERATIONS MANAGEMENT
ANIMAL SCIENCES
POLITICAL SCIENCE
CHEMICAL ENGINEERING
BIOLOGY
INSTITUTE
COMPUTER AND INFORMATION SCIENCE AND ENGINEERING
MARINE LAB
PLANT PATHOLOGY
MOVEMENT DISORDERS CENTER
AGRONOMY
ENTOMOLOGY
HORTICULTURE
GEOLOGY
ENVIRONMENTAL ENGINEERING SCIENCES
PHARMACOLOGY
PHYSIOLOGICAL SCIENCES
ECONOMICS
NUCLEAR AND RADIOLOGICAL ENGINEERING
GEOGRAPHY

RESEARCH COMPUTING SUPPORT OF UF FUNDED RESEARCH

■ =RC SUPPORTED PI   ■ =OTHER PI

| | FY 10-11 | FY 11-12 | FY 12-13 | FY 13-14 | FY 14-15 |

(Stacked bar chart with y-axis from 0 to 800 in increments of 200)

CONSULTING

Research Computing staff provide support at no additional charge for:

» Installing software

» Writing and optimizing submission scripts

» Analyzing performance problems with software and job flows

TRAINING

Research Computing staff conduct regular training sessions covering various aspects of using the system and its available resources. The training schedule and recordings of previous sessions are available at: wiki.rc.ufl.edu/doc/Training.

» Training for individuals or groups can be arranged

» UF courses use Research Computing facilities to prepare students for modern computationally-driven research. Contact info@rc.ufl.edu for details

OFFICE HOURS AND APPOINTMENTS

Research Computing staff are available with regular office hours, walk-in meetings, appointments and small-group training sessions on pertinent topics.

See rc.ufl.edu/contact/people for staff specialties, office hours, and contact information.

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