Research Computing Services Brochure

Academic Year 2016-2017

UF | UNIVERSITY *of* FLORIDA

Information Technology
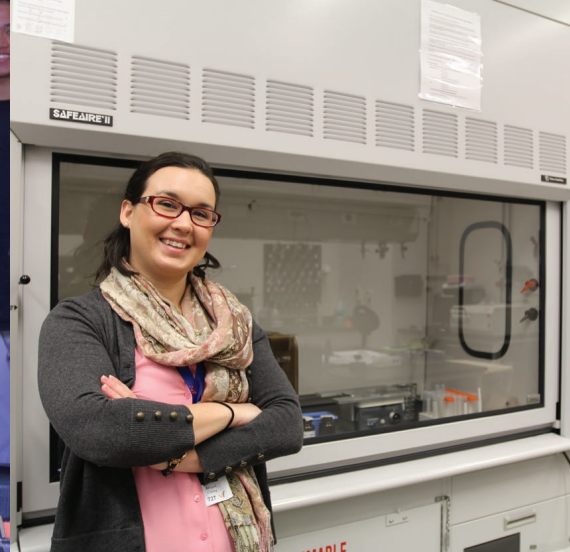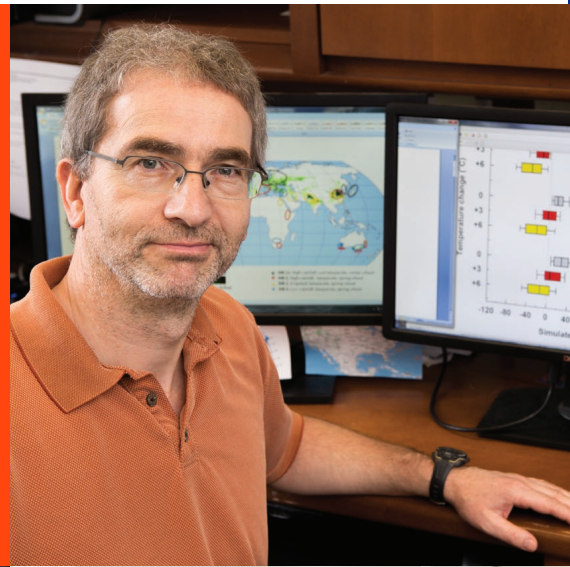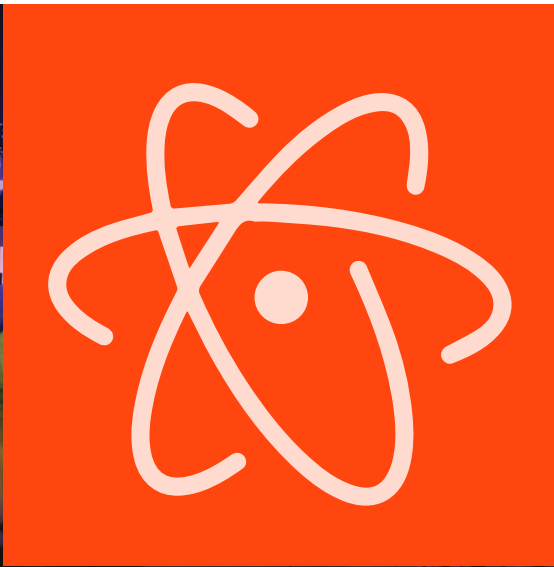
UF RESEARCH COMPUTING provides the infrastructure to give large-impact research projects a competitive edge. With highly-ranked facilities, a dedicated staff, and significant university support, Research Computing equips faculty to overcome the challenges they face in the competition for funding--even in research areas engaging restricted data.

COMPUTATION AND DATA STORAGE

HiPerGator, the University of Florida supercomputer, is a 51,000-core cluster with three petabytes of high-performance storage. The cluster includes the latest generations of Intel and AMD processors, Xeon Phi coprocessors, Nvidia GPUs, and offers up to 1 terabyte of memory per compute node. HiPerGator's high-performance storage systems can be accessed from diverse interfaces, including GatorBox, Globus, UFApps for Research, and other tools.

RESSHIELD AND RESVAULT

ResShield and ResVault create a secure computing environment compliant with several regulatory entities:

- •Federal Information Security Management Act (FISMA)
- •Health Insurance Portability and Accountability Act (HIPAA)
- •International Traffic in Arms Regulations (ITAR)
- •Export Administration Regulations (EAR)

This environment can be used to work with restricted data, which is data with legal, regulatory, or contractual restrictions within legislation. Access to private workstations is provided through individualized access keys. Specially designed hardware in the UF Data Center hosts each virtual machine, and the graphical interface is transmitted securely and displayed on the user's remote device.

UFAPPS FOR FACULTY AND UFAPPS FOR RESEARCH

Faculty members receive automatic access to UFApps for Faculty, home to a wide collection of more than 60 software applications, including SAS and MATLAB. UFApps for Research uses HiPerGator resources to provide these same applications for research endeavors with high-performance computing or large data requirements.

PROPOSAL SUPPORT

Research Computing is happy to help make any research proposal more competitive, and will work with Principal Investigators (PIs) throughout the proposal process on:

- · Proposal budget details for services or hardware acquisition
- · Description of Research Computing facilities and resources
- · Guidance on data management plans
- · Letters of support

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

INVESTMENT OPTIONS

Research Computing offers several options designed to meet the computing requirements of research projects while remaining within budgetary constraints. These options are intended to accommodate all levels of research funding. Please see https://www.rc.ufl.edu for a full price sheet, or contact the department at support@rc.ufl.edu.

UNIVERSITY MATCHING IS BUILT IN

Research Computing matches all long-term investments in computer processors and accelerators. Commitments from the Office of the Provost, the Office of the VP for Research, and the Office of the VP and Chief Information Officer provide an outstanding structure of support, further stretching the budgets of UF researchers. Institutional matching demonstrates to granting agencies the university's commitment to supporting research.

COLLABORATION & OUTREACH

In addition to assisting with proposal preparation, Research Computing staff can advise faculty on new technologies that may benefit their research, guide software selection, and assist in troubleshooting software and scripts. The department participates in numerous faculty outreach events, and is available to give presentations at meetings or in a seminar series. Staff also help forge partnerships with faculty across the state through the Sunshine State Education & Research Computing Alliance (http://sserca.org).

CONSULTING

Research Computing staff provide several support services at no charge:

- Software installation
- Submission script creation and optimization
- Analysis of software performance and job flows

Extended consultation for large projects can be included as a per-hour service in a project's budget. For more details, please see the full price sheet at https://www.rc.ufl.edu.

"HiPerGator has allowed my team to analyze a vast amount of high-dimensional biometric data gaining valuable research insights and the ability to explore multiple research hypotheses simultaneously. These capabilities have proven essential as we seek to advance the capabilities of biometric technology. Access to such a resource provides a significant advantage to both UF faculty and students.

Damon L. Woodard, Ph.D.
Associate Professor,
Department of Electrical and Computer Engineering
Florida Institute for Cybersecurity (FICS) Research
Herbert Wertheim College of Engineering

HEALTH OUTCOMES AND POLICY   UF LIBRARIES
EDUCATION   INFORMATION SYSTEMS AND OPERATIONS MANAGEMENT
ANIMAL SCIENCES   ELECTRICAL AND COMPUTER ENGINEERING
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

TRAINING

Regular training sessions covering the use of the system and its various resources are conducted throughout the year. The training schedule, along with recordings of previous training sessions, can be viewed at https://training.it.ufl.edu. The university uses Research Computing facilities in order to prepare students to conduct the research of tomorrow. For more details, please contact info@rc.ufl.edu.

OFFICE HOURS & APPOINTMENTS

Research Computing staff are available through regular office hours, walk-in meetings, appointments, and small-group training sessions on relevant topics. https://www.rc.ufl.edu/contact/people.

EMAIL:
info@rc.ufl.edu
support@rc.ufl.edu

WEB:
https://www.rc.ufl.edu

Research Computing Support Of UF Funded Research ($M)

- **Other** (blue)
- **RC Supported** (orange)

UNIVERSITY of FLORIDA

The Foundation for the Gator Nation
An Equal Opportunity Institution

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