IT Analyst, Systems Administration

The Duke Center for Genomic and Computational Biology (GCB) is seeking an IT Systems Administrator to deploy, administer, and support the computing, storage, and network infrastructure that the Center’s scientific computing needs for large-scale cutting edge genomics research depend on.

GCB launched in July 2014 to bring together scientists, engineers, physicians, and sociologists passionate about interdisciplinary research to explore big questions in genomics and computational biology. The Center employs state-of-the-art high-performance computing (HPC), networking, and storage infrastructure at a massive scale to meet the scientific computing needs driven by its cutting edge genomics research, technology, and education programs. Researchers at the Center and elsewhere at Duke routinely use this infrastructure to manage and analyze hundreds of terabytes of data. The Informatics team of the Center, in which this role is situated, includes top-notch HPC systems, IT support, and scientific applications development teams working hand-in-hand on promoting automation, reproducible practices, and enabling the Center’s researchers to do more and better science.

Job Description

The incumbent will be responsible for implementation, maintenance, and troubleshooting the IT infrastructure operations of the Center. In collaboration with the Center’s IT leadership and other IT staff, the incumbent will implement and deploy systems that enable more effective use of data and compute resources; ensure that information and systems are secure; maintain, monitor, and upgrade systems; and work with Center personnel and IT staff to troubleshoot and devise solutions for problems with computing, network, and storage infrastructure. Specific responsibilities and activities include the following.

- Deploying, securing, monitoring, and maintaining IT equipment and resources such as physical and virtual servers, and enterprise storage appliances. This includes organizing racks, cable management, designing network connections and power provisioning.
- Deploying, upgrading, and managing scientific, enterprise, and operating system software, including open source and special-purpose software for computational biology and genomics core facilities.
- Providing and maintaining efficient access to and regularly updating publicly available large-volume research datasets relevant to genomics and computational biology.
- Deploying, upgrading, and maintaining relational database servers (in particular PostgreSQL).
- Using analytical troubleshooting to efficiently and professionally investigate and resolve a wide range of IT issues, in particular with access to, performance of, and software availability on GCB’s data storage, servers, and services.
- Participating in Duke’s community of IT professionals for knowledge exchange and to stay abreast of central IT resource offerings.
- Collaborating with IT leadership and staff to identify, evaluate, and recommend new hardware, software, and other IT technology solutions to improve existing or create new computing infrastructure components in support of the Center’s IT needs.
- Providing guidance and backup for the endpoint device / IT helpdesk when needed.

The position reports to the Center’s Director of Informatics.
Qualifications

Required:

- Degree in an Information Technology or related technical field, or at least 2 years of relevant professional experience, or some combination thereof.
- Thorough knowledge of Linux operating systems, in particular Ubuntu, CentOS, and RHEL, including experience with Linux software deployment and management tools, such as RedHat RPM and Satellite.
- Knowledge of and experience with physical server hardware and virtualization tools, including blade systems, remote hardware management, and virtualization stacks.
- Knowledge of and experience with enterprise storage systems, in particular NFS, Samba, and NetApp's Data OnCommand.
- Familiarity with technologies and best practices for server and information security.
- Track record of orientation to detail and dedication to professional service excellence.
- Ability to work independently and to communicate effectively with diverse groups of people ranging from technical IT staff to academic researchers, students, and administrative staff.

In addition to the above, one or more of the following are a plus:

- B.S. degree in an Information Technology or related technical field, or at least 4 years of relevant professional experience.
- Experience administering Windows and MacOSX operating systems.
- Experience with creating and using containerization (Docker, Singularity) and other technologies (Environment Modules) for reproducible software environments.
- Experience with automated reproducible deployment technologies for servers, operating systems, and software environments (in particular Ansible).
- Knowledge of federated identity, authentication, and authorization technologies (OpenLDAP, Windows Active Directory, Kerberos, Shibboleth, OAuth).
- Experience with task automation through scripting, including shell scripting. Also, programming experience, in particular using scripting languages such as Python.
- Experience with deploying and maintaining open source and scientific software installations.
- Experience with maintaining relational database management systems, in particular PostgreSQL.
- Familiarity with HIPAA compliance rules.

How to Apply: Please submit your application at [http://www.hr.duke.edu/jobs/](http://www.hr.duke.edu/jobs/), requisition # 401347287. For inquiries about the position please contact Hilmar Lapp, Director of Informatics (GCB), at hilmar.lapp@duke.edu.

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