# OPPORTUNITIES TO LIVE, WORK, & STUDY AT KAUST

### **Supercomputing Core Lab**

#### Systems Administrator

Be a key member of the team administering KSL's supercomputers, storage and other related infrastructure. Large-scale Linux system administration expertise, expert level configuration management, scripting, backup, monitoring and automation skills are required.

This is a highly technical role requiring high performance computing (HPC) or large scale computing experience, in complex environments.



## Major Responsibilities

- Provide timely and useful assistance (2nd -3rd level support) to laboratory users and to other staff members.
- Maintain high customer service standards in dealing with and responding to user issues and questions. This is typically done via KSL ticketing system (RT).
- Maintain a respectful and collaborative working environment within the laboratory.
- Design and produce effective and thorough technical documentation
- Build effective relationships with staff, faculty and students through the Core Labs.
- Plan, lead implementation and support of software installation and management for the HPC systems within the Center
- Expert understanding and support of high performance parallel filesystems (i.e. Lustre), hierarchical storage management systems (i.e. DMF) and high performance computing workload managers and schedulers (i.e. Slurm).
- Apply expert knowledge of Unix/Linux systems administration, including all aspects of management, monitoring, performance analysis, and integration in complexheterogeneous environments.
- Use configuration management tools (e.g., Puppet) to help maintain large-scale Linux clusters, supercomputers, storage systems, and infrastructure servers.

- Monitor and optimize services and performance (file system, network interconnects) using Nagios, Ganglia, etc.
- Plan and administer infrastructure servers work (file servers, monitoring, etc.).
- Investigate and resolve systems related issues; coordinate with vendors to isolate hardware problems; install firmware or software patches as necessary.
- Represent the laboratory in international conferences and campus forums, such as technical coordination meetings with other technology-focused units.
- Significantly contribute to planning of the work of a major laboratory or research projects
- Maintain expert-level knowledge in most of the laboratory systems, including either high performance computing systems administration, high performance storage administration, or high performance network administration.
- Act as a point of contact for complex problems and help junior colleagues.
- Work flexible hours as needed.
- Travel occasionally for training, presentations, conferences and collaborations.
- Other duties as required.

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#### • Competencies:

- Good knowledge of Linux operating system is required
- Experience with Cray/HPE systems is desirable
- Proficient documentation skills.
- Ability to support research activities in the laboratory environment.
- Understands and uses appropriate methods, tools and applications.
- Demonstrates an analytical and systematic approach to problem solving.
- Demonstrates effective communication skills in written and oral English.
- Plans, schedules and monitors own work and that of others, competently within limited deadlines and according to relevant legislation and procedures.
- Appreciates the wider field of information systems and computational research, and how own role relates to other roles and to the business of the employer, users or colleagues.

- Absorbs and applies technical information.
- Works to required standards.
- Understands and uses appropriate methods, tools and applications.
- Ability to work successfully in a highly collaborative research environment.
- Uses discretion in identifying and resolving complex problems and assignments.
- Performs a broad range of work, sometimes complex and non-routine, in a variety of environments.
- Knowledge of laboratory systems and applications.

#### • Qualifications:

Bachelor of Science (or equivalent) in a relevant discipline plus 6 years of experience, OR Master of Science (or equivalent) in a relevant discipline plus 4 years of experience OR Doctor of Philosophy (or equivalent) in a relevant discipline.



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www.kaust.edu.sa Learn more about Core Labs: <u>Corelabs.kaust.edu.sa</u>



#### About King Abdullah University of Science and Technology

Founded in 2009, King Abdullah University of Science and Technology (KAUST) is a top-ranking graduate research university located on the shores of the Red Sea in Saudi Arabia. The University is dedicated to solving global challenges in the areas of food, water, energy, the environment, health and digital. KAUST employees enjoy exceptional packages, including competitive salaries and relocation allowances, fully furnished on-campus accommodation, and comprehensive health insurance coverage.KAUST also provides international schools (IB program) and a wide variety of recreation facilities.

The Core Labs at KAUST is a shared research facility comprised of 12 laboratories run by over 240 staff. Its mandate is to promote the scientific ambitions of KAUST and Saudi Arabia by stewarding and developingstate-of-the-art facilities and technical expertise and delivering research support, training, collaboration and services to KAUST faculty, students, researchers and partners.