JOB DESCRIPTION

Job Title: Research Systems Administrator (M³4Impact)

Grade: SG8

Department: Technology & Operations / Information and Library Services (ILS)

Responsible to: Head of Platforms and Research Systems

Responsible for: HPC and Systems Administration support for M³4Impact

Key Contacts: M³4Impact Leadership, staff in ILS, in particular Technology & Operations

Standard Occupational Classification (SoC code): <<Please Insert>>

Non-Contractual Nature of Role Profile: This role profile is non-contractual and provided for guidance. It will be updated and amended from time to time in accordance with the changing needs of the University and the requirements of the job.

PURPOSE OF ROLE
Our vision is to expand our world-leading Multi-Disciplinary and Multi-Scale Modelling expertise in both reach and ability, to tackle major societal challenges affecting the environment, quality of life, safety, security, and the economy. This will be achieved through the amalgamation and expansion of two existing award-winning teams: the Centre for Safety, Resilience and Protective Security (CSRPS) and the Computational Science and Engineering Group (CSEG), creating the Multi-scale, Multi-disciplinary Modelling for Impact (M³4Impact) expansion.

Both teams excel at developing and applying mathematical models, computational simulations, and bespoke software to create digital worlds that predict physically accurate outcomes addressing a wide range of societal challenges. M³4Impact links three cross-cutting research and knowledge exchange (R&KE) themes: **Safety and Security (S&S)**, covering disaster resilience, fire and evacuation dynamic coupling, urban-scale and building scale evacuation modelling, and protective security incorporating real-time interactivity through Virtual/Mixed Reality, from CSRPS; **Materials Science and Engineering (MSE)** focuses on the design and manufacture of sustainable, lighter, stronger materials with broad applications, in the transport, aerospace, energy and biomedical sectors. This encompasses materials and process modelling targeting recyclability, low waste and energy efficiency; and **Digital Cities (DC)**, where interdisciplinary research will develop the evidence-base to protect UK cities/populations from

pollution, pathogen dispersal, natural/anthropogenic disasters and to support policy decisions, jointly from CSRPS and CSEG.

This role will work within the Technology & Operations department, responsible for research systems administration support for the M^{3}4Impact's R&KE aspirations, in line with the University's Digital Strategy. This will involve contributing to the development and maintenance of relevant hardware, software, cloud environments and delivery of the HPC service of for the M^{3}4Impact and the University. Take proactive responsibility for intra-team co-ordination within the M^{3}4Impact, department and wider directorate and other administrative and academic departments as required.

Appropriate, effective, and resilient IT systems and infrastructure are critical to the success of the University and have been clearly articulated as a strategic requirement for the University. In that context, as a Research Systems Administrator, you will manage the implementation, maintenance and support of the University's HPC, M^{3}4Impact infrastructure and dependent systems as required.

With specific reference to the University calendar you will ensure that appropriate, timely and reliable systems are in place to support business requirements and to also ensure that at key points in the academic cycle sufficient staff and contingencies are in place to mitigate any risk to the business.

KEY ACCOUNTABILITIES
Team Specific:
- Be an active member, positive contributor to, and mentor within the M^{3}4Impact, Technology & Operations department and wider ILS directorate.
- Ensure compliance of high-quality processes in relation to all aspects of work, with particular reference to change management and a high level of quality assurance and professionalism throughout.
- Liaise with key stakeholders to ensure IT infrastructure and associated systems are fit for purpose and meet the needs of the M^{3}4Impact and the University.
- Deliver systems and services of high quality, resilient and secure and meet the core business needs of the M^{3}4Impact, the University and the aspirations of the Strategic Plan.
- Deliver an infrastructure environment that is fully documented, described and understood.
- Proactively monitoring infrastructure services within the area of responsibility.
- Provide effective third line support and maintenance of relevant systems, ensuring that a high standard of service is provided, quality maintained and agreed incident processes are followed.

- Work closely with colleagues from the wider Technology & Operations department in developing and maintaining a high performance, secure and fully resilient infrastructure.
- Work closely with colleagues from the M^{3}4Impact (Academic Staff, Research Software Engineers and PhD Students) to understand R&KE requirements and develop practical solutions within the wider University infrastructure.

Generic:
- Maintain an up-to-date and authoritative knowledge of new developments in relevant technology, particularly in relation to its application within R&KE in Higher Education context.
- From time to time, participate and support in specific projects not directly related to the main functions of the post.
- Engage in professional development opportunities to maintain a relevant skillset.
- Work collaboratively as required within your team, department as well as other colleagues, including the Head of IT Infrastructure Planning, Head of Endpoint Systems, Head of Cyber Security, Project Managers, other senior ILS colleagues and M^{3}4Impact leadership.
- Carry out other duties as may from time to time be reasonably required across the service.

Managing Self:
- To engage with M^{3}4Impact members and ensure the service fulfils their requirements, thereby optimising, enhancing, and maximising their R&KE outcomes.
- To take responsibility for the creation and curation of subject specific documentation and tools for using the HPC service, to minimise any barriers to entry and maximise the benefits for users.
- To work with ILS and Faculty IT Teams, taking a role in deployment and provisioning of new HPC hardware, software and cloud services, while maintaining existing infrastructure and service level agreements.
- Take a lead role in managing and maintaining other systems used heavily in Research for the M^{3}4Impact, for example bespoke data storage for research data.
- To analyse user or system needs and requirements and take steps to create and support procedures, technical standards, information and other developments as appropriate.
- Deploy new hardware, applications and libraries to the HPC environment and maintain supported versions, taking a leading proactive role in overall system maintenance and lifecycle.

- To engage with third-party vendors in support and implementation of HPC applications and services.
- To assist the directorate teams in achieving service-based strategic objectives relating to the HPC service.
- To engage in person and remotely with M³4Impact HPC service users, assessing their requirements and working with them to find solutions to technical problems.
- To participate in the creation and review of training materials and take a role in the delivery of training to the HPC community.
- To utilise technology to maintain records relating to HPC usage and other statistics.
- To report regularly to the M³4Impact management, HPC Admins group, the HPC Steering Committee, the HPC user community, and infrastructure line management.
- To ensure services are aligned with M³4Impact and University strategies and the changing demands of users, technology and service developments.
- Following the approved methodology, ensure the successful delivery of both departmental and strategic projects as well as high profile University wide initiatives that may involve national or international partners.
- Be a senior technical person responsible for the installation, maintenance and support of enterprise class hardware, operating systems, software and services.
- Coordinate and apply technical support, fault diagnosis and performance tuning of the operation of relevant IT systems and environments maintained by the team.
- Take a proactive role in liaison with infrastructure and software suppliers and ensure effective working relationships are created and maintained.
- Act as a point of authority for the area of responsibility.
- Define and ensure compliance of high-quality processes and procedures in relation to the area of responsibility, with particular reference to change management and a high level of quality assurance throughout. Ensure the compliance of centrally defined processes, procedures and standards.
- Liaise closely with all staff to share and develop best practice and contribute to staff training and development activities.
- Take responsibility for incident and problem management and ensure continuity of process and full and coherent communication with all relevant stakeholders.

- Participate in and contribute to relevant external and internal professional, service and M³4Impact and University groups.
- Be proactive in promoting the image of the department and directorate within the University, the wider higher education community and the national and international user communities associated with technical and functional use of our corporate systems.
- Proactively and through the application of independent initiative, research industry information to assess suitability of, make decisions and advise on the most appropriate technologies for use within the University.
- Develop and exhibit excellent organisational, planning and time management skills.
- Display logical thinking with creative problem-solving ability.
- Provide attention to detail.
- Good communication and negotiation skills.
- Demonstrate good IT skills and willingness to develop them further.

Core Requirements:
- Adhere to and promote the University's policies on Equality, Diversity and Inclusion and Information Security.
- Ensure compliance with Health & Safety and Data Protection Legislation.
- Support and promote the university's Sustainability policies, including the Carbon Management Plan, and carry out duties in a resource efficient way, recognising the shared responsibility of minimising the university's negative environmental impacts wherever possible.
- Adhere to current legal requirements and best practice relating to digital content and accessibility, including Web Content Accessibility Guidelines when creating digital content.

Additional Requirements:

- The post holder will have access to a range of sensitive and key University systems. It is therefore essential that they demonstrate a high level of professional integrity and discretion and comply with the University's Policies in relation to Information Assurance and Security.
- They will be expected to use initiative and problem-solving skills and to be able to identify and deliver solutions to user requirements and activities are coordinated to ensure either delivery of new solutions and projects or the resolution of incidents.
- The post is critical to the efficient and effective functioning of the University's information system facilities, possessing high levels of

responsibility for the development and operation of the infrastructure which underpins all IT systems and services within the University.

- The post involves contact with members of the University's staff at all levels.
- In line with the operational calendar of the University, the post-holder will be required to schedule and attend to work outside normal working hours. Note the IT at risk periods are 0700 – 0900 Tuesday and Thursday mornings, and other digital change windows as agreed with the University, which is when new equipment is usually commissioned, and security updates are applied.
- In line with key events in the University calendar there will be an on-call requirement for some evenings and weekends.
- Attendance at some University committees and informal meetings will be required.
- Some inter-site travel will be necessary.
- Undertake any other duties as requested by the line manager or appropriate senior manager, commensurate with the grade.
- This is a professional, demanding role within a complex organisation with an ambitious strategic plan and agenda for change. The role holder will be expected to show flexibility in working arrangements, including working hours, to ensure that the directorate delivers the required level of service.

Freedom of speech and academic freedom:
In any matter falling under this policy, the university will have particular regard to, and place significant weight on, the importance of freedom of speech within the law, academic freedom and tolerance for controversial views in an educational context or environment. The University's commitments to freedom of speech and academic freedom are set out in the [Freedom of Speech Code of Practice](). In the event of any conflict between this policy and the Freedom of Speech Code of Practice, the Freedom of Speech Code of Practice will take precedence.

KEY PERFORMANCE INDICATORS:
Effective execution of the job description, in part measured by;
- High service availability expressed as a percentage of the monthly service statistics.
- High system uptime, minimal un-planned outages (target 99.5% or greater).
- Time taken to respond to Service calls and Incidents.
- Effective application of Change Control procedures and creation of documents for recording system information.
- Projects within the team are delivered on time, budget, scope and quality.
- Ensure the team positively contributes to the successful delivery of department, directorate and corporate KPI's.

KEY RELATIONSHIPS (Internal & External):

- Research Leaders in the M^{3}4Impact
- Head of IT Infrastructure Planning
- Principal Strategy and Information Security Officer
- Cyber Security Team
- Endpoint Systems Team
- Team and Department Colleagues
- University Senior Management and key University Groups and Committees as required
- University staff within Faculty and Directorate offices, particularly ILS and FES
- Software and managed service suppliers
- University, Partner, Network and Collaborative Centre staff and student
- Colleagues across the sector in related fields
- Relevant sector networks such as JISC, HEFCE, Janet, KPSN, GOETEC
- Partner Universities

PERSON SPECIFICATION

EXPERIENCE:

Essential Criteria
- Experience in the use and administration of Linux or Unix systems, and confidence in using command line tools.
- Experience in the creation of documentation.
- Experience in the assistance and training of peers in a technical field.
- Sound experience with computer networking.
- Proficiency with a scripting language such as Batch files, PowerShell, Perl, Python or Bash.

Desirable Criteria

- Working in the Higher Education sector in a service delivery role.
- Experience working in an engineering or scientific discipline.
- Proficiency with multiple operating systems including Microsoft Windows, Linux, Unix, Mac OS.
- Experience with virtualisation technologies such as VSphere, KVM, Proxmox.
- Proficiency with a programming language such as FORTRAN, C, C++, Python.
- Experience in the use of source control systems for version management such as GIT.
- Experience managing and supporting an HPC research computing system.
- Use of a job scheduler and reporting tools, such as SLURM or other scheduling tools.
- Use of an HPC cluster management platform, such as Bright Cluster Manager or XCAT.
- Experience with a configuration management system such as Puppet, SaltStack, Ansible, Chef.
- Experience in the delivery of outcomes in a project management process.
- Experience of Cloud computing Infrastructure such as provided by AWS or Azure.

SKILLS:

Essential Criteria

- An understanding of troubleshooting and problem-solving for engineering or scientific processes.
- An understanding of troubleshooting and problem-solving in relation to computer systems.
- Excellent organisational skills and the ability to prioritise and manage a wide and varied workload.

- Ability to take initiative but also to distinguish between the need to decide and when to defer.
- Ability to provide information and opinions to contribute to others' decision-making processes.
- Excellent communication and presentation skills.
- Excellent IT skills including use of MS Office or equivalent.
- Clear user focused approach to work with ability to respond flexibly to change.
- Ability to provide clear, concise and persuasive written and oral communication.
- Ability to adapt services and systems to meet users' needs and to identify improvements.
- Ability to analyse and report on data and feedback.
- Willingness to maintain and develop technical and personal skills in line with the evolving nature of the work.
- Experience of developing training material using a variety of methods and where necessary presenting that material face to face, or remotely.
- Experience of developing cyber security risk assessments for integrating research requirements into wider infrastructure.

Desirable Criteria
- Experience of working within an environmental sustainability context.
- Sound knowledge of the ITIL Service Management framework.

QUALIFICATIONS:

Essential Criteria
- Educated to degree level or equivalent demonstrable experiential learning within a relevant technical, educational management or business discipline.

Desirable Criteria
- Postgraduate or professional qualification in a relevant technical or management discipline.
- Membership of a relevant professional organisation.
- ITIL accreditation.
- Prince2 accreditation.
- Professional IT certification in a relevant technology.

PERSONAL ATTRIBUTES:

Essential Criteria
- We are looking for people who can help us deliver the values of the University of Greenwich: Inclusive, Collaborative and Impactful.

Desirable Criteria
- N/A