

Post Details			
Faculty/Administrative/Service Department	Global Centre for Clean Air Research Civil and Environmental Engineering Faculty of Engineering & Physical Sciences (FEPS)		
Job Title	GCARE Experimental Officer		
Job Family	Technical and Experimental	Job Level	4
Responsible to	Director of GCARE (Global Centre for Clean Air Research, GCARE)		
Responsible for (Staff)	n/a		

Job Purpose Statement

The post holder will support the operation, development and management of the GCARE's Air Quality Laboratory (AQL) and ensure its safe and efficient running. The post holder will provide specialist technical advice and support to academic staff, postgraduate and undergraduate students and researchers within the department as well as supporting the development and maintenance of AQL instrumentation. The post holder will provide AQL instrumentation support for the day-to day running of the GCARE's research projects, including preparation of experimental set-ups for field work, help running field campaigns, data extraction from equipment and its systematic archiving. The post holder will also be responsible for maintaining and logging activities of all the specialised equipment; liaising with external suppliers, writing/updating safety documentation and negotiating service contracts as needed. The post holder will actively participate in the research activities of the academic/research staff, PG/UG/PhD students in this lab and will be expected to contribute to the research output/proposals of the GCARE's AQL.

Key Responsibilities This document is not designed to be a list of all tasks undertaken but an outline record of the main responsibilities (5 to 8 maximum)

1. Supporting the design and development of new experimental set-ups such as experimental rigs (e.g., emission testing chambers, low-cost sensor kits, sensor testing chamber, filter testing rig, tyre-wear measurement rig) and contributing to new proposals to sustain the flow of funding to maintain existing equipment, procuring new equipment, and covering part of post holders' time, and preparing project reports.
2. Perform tasks including electronics such as building simple sensor setups, mechanical such as building field setups, and chemical such as calibration gases and filter extraction as well as produce specialist computer software needed for data collection from existing or new field and laboratory experiments. Take responsibility for proper management, storage, backup and systematic archiving of measurement data acquired in the field or in the lab including using appropriate IT systems such as databases and servers.
3. Participate in field campaigns and lab experiments and support research staff and students in carrying out their field and lab experiments. Working outdoor, indoor and at heights should be expected as part of the job along with travelling for shorter periods (up to two weeks) to support field campaigns the UK or overseas.
4. Manage the air quality laboratory. This includes the operation, management, maintenance and updating of the air quality monitoring instruments in the laboratory and in the field as required, including ensuring routine calibration and maintenance of instruments. This also includes coordination of field campaigns and prioritisation as required...
5. Familiarity with equipment manuals, write up standard operating protocols/manuals and create systems for carrying out experiments and measurements of a high quality. This includes archiving and keeping track of documentation related to the instruments.
6. Manage budgets and finances for lab equipment calibration, consumables, field experiments, maintenance, purchasing of new instruments etc. for research/teaching in collaboration with line manager. Train research staff and PG/UG/PhD students in the correct use of the instruments and ensure proper health and safety standards as well as standard operating protocols are followed during field experiments and lab work.

7. Support selection and purchasing of new instruments and laboratory equipment, as well as ensuring the appropriate and compatible IT equipment is available and updated for use with each instrument. This includes liaising with suppliers of instruments, consumables etc.
8. Willingness to participate in continued professional development related to activities and skills as part of the GCARE team. Keep up to date with advancements in the field and undertake CPD activity to ensure the Faculty is able to make use of cutting edge protocols and techniques. Collegial as part of GCARE team to interact and manage his/her own tasks and work with other team members of the research group to support individual and consortium research projects.
9. To monitor and maintain a safe working environment in accordance with the latest health and safety legislation. Implement Health & Safety policies in the research laboratories; writing SOPs, lab inductions, inventories, equipment records, lab inspections & assisting lab users with documentation (Risk Assessment, CoSHH, etc). Work closely with the Faculty Health & Safety team to establish/maintain safe working practices in the research labs, contributing positively towards the adoption of best practice models and the growth of the health and safety culture, and maintaining contacts with workshop and other relevant teams to secure technical support when needed.

N.B. The above list is not exhaustive.

All staff are expected to:

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities Policy.
- Work to achieve the aims of our Environmental Policy and promote awareness to colleagues and students.
- Follow University/departmental policies and working practices in ensuring that no breaches of information security result from their actions.
- Ensure they are aware of and abide by all relevant University Regulations and Policies relevant to the role.
- Undertake such other duties within the scope of the post as may be requested by your Manager.
- Work supportively with colleagues, operating in a collegiate manner at all times.

Help maintain a safe working environment by:

- Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand.
- Following local codes of safe working practices and the University of Surrey Health and Safety Policy.

Elements of the Role

This section outlines some of the key elements of the role, which allow this role to be evaluated within the University's structure. It provides an overview of what is expected from the post holder in the day-to-day operation of the role.

Planning and Organising

- They will have the freedom to work in a proactive manner and will decide how to achieve the end result, generally based on their judgement and technical expertise and prior experience, within agreed priorities in a dynamic environment. The post holder will be guided by the Academic Lead for Air Quality in terms of the nature of work undertaken.
- The post holder will liaise with internal and external clients to identify their requirements and ensure that they have appropriate and timely access to the equipment in the laboratories.
- The post will include successfully managing any conflicting demands, possessing an awareness of the options available and being able to make effective and appropriate decisions.
- The post holder will support UG/PG research projects (setting up equipment, maintaining stocks and acquisition of consumables etc.), provide support for field work (part of several on-going and future projects) and help with the preparation of tests/demonstrations during GCARE's events aimed at promoting the Air Quality Research.

Problem Solving and Decision Making

- To provide technical support and advice to academic and research staff associated with the Air Quality Laboratory. The appropriate course of action will usually be a matter of choice, influenced by the application of established procedures and precedents and their previous experience and exposure to similar problems. They are required to provide advice to users of the laboratories on routine issues within the context of the role, exercising initiative and judgement gained through prior experience and knowledge.

- The post holder will be expected to apply reasonable personal initiative and judgement when faced with situations where past experience does not apply; referring only complex or unprecedented issues to their line manager for advice or guidance. The post holder is however, expected to have a degree of involvement in finding and implementing resolutions in this case.
- The post holder is expected to execute complex quantitative and qualitative procedures, analyse the findings and to apply their knowledge and expertise to interpret the results from these.
- The post holder will operate with some direction and guidance from line manager in terms of the nature of work allocated.
- The post holder is also required to provide a troubleshooting service with regards to any experimental problems/issues they face. Problem solving and decision making are therefore integral to many elements of the work undertaken by the post holder. It is expected that the post holder will apply their skills and knowledge in order to make recommendations for improvements to the efficiency and effectiveness of the research and/or services provided.

Continuous Improvement

- To keep abreast of new technology and instrumentation, promote and deliver innovative solutions to improve the laboratories.
- The post holder is expected to contribute to the development of techniques and methods for agreed research programmes.
- They are also expected to develop new technical skills as appropriate to the developing nature of research within the laboratory, in order that they are able to contribute to the creation of innovative solutions to requirements.

Accountability

- The post will be responsible to provide advice, training and assistance to staff and students regarding the application of techniques and use of common equipment for preparation and application of standard laboratory techniques.
- The post-holder will work largely independently, with some guidance from the Technical Services Manager and the Academic Lead for GCARE. They are expected to exercise discretion and judgement when addressing and resolving daily problems or issues on a wide range of routine matters.
- The post holder is expected to respond confidently and in a timely manner to problems/issues such as equipment malfunction and prioritisation. They are expected to apply well-established processes and procedures and technical and working knowledge to assist PGR students and post-doctoral researchers in the design and preparation of experiments, oversee and supervise technical staff on the maintenance of equipment and the safe operation of systems.
- The post holder is responsible for the safety and security of the laboratory space and equipment. They are also responsible for familiarising staff and students with Health and Safety issues and the preparation of Risk/COSHH assessments. Errors in judgement in terms of the advice given, could lead to damaged equipment or personal safety being placed at risk. The post holder is responsible for the safety and security of the laboratory space and equipment. This includes monitoring and maintaining a safe working environment within the laboratories, ensuring that the environment and equipment meets Health and Safety requirements and that any procedures, including waste disposal, are carried out in compliance with their associated regulations.

Dimensions of the role

- The post holder will assist academic and research staff and students on air pollution monitoring and instrumentation, innovate new experimental/instrumental methods and maintenance procedures. The post holder will also assist staff and under/post graduate students in design and manufacture of apparatus for project based research/teaching. This may include working with research and academic staff and UG, PGT and PhD students and liaising with suppliers and manufacturers to ensure successful design and construction of parts.
- The post holder may need to manage a small budget. They will also be responsible for suggesting economical improvements and updating CEE requirements for Maintaining the Estate to the Technical Services Manager.

Supplementary Information The post holder will be a member of the appropriate Departmental H&S Forum.

- A knowledge of using air quality instruments and their data via instruments' software's as well as a thorough knowledge of the hazards associated compressed gases is required in order to minimise the risk of misuse and accidents involving users.

Person Specification This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role.

Qualifications and Professional Memberships	Essential/ Desirable	
HNC, A Level, NVQ 3, HND level or equivalent (in instrumentation and or computer E systems), with several years relevant work experience OR Postgraduate (Masters/PhD) qualification in relevant Specialist area OR Broad vocational experience, acquired through a combination of job-related vocational training and considerable on-the-job experience, demonstrating progressive development through more demanding relevant work/roles	E	
Technical Competencies (Experience and Knowledge) This section contains the level of competency required to carry out the role (please refer to the competency framework for clarification where needed and the Job Families Booklet).	Essential/ Desirable	Level 1-3
Instrumentation installation and support	E	3
Experience in basic electronics works/connections	E	3
Data acquisition from instruments, and data analysis skills	D	n/a
Knowledge of air quality instrumentation and COSHH regulations	D	n/a
Experience with automatic data collection systems, databases, servers and related IT systems and LabVIEW or equivalent software	D	
Understanding of Health and Safety legislation and issues	D	n/a
Knowledge and experience of maintenance of and fault finding in equipment and in-house built experimental setups	D	n/a
Should be motivated and enthusiastic to work in a multidisciplinary environment and should have basic experience of handling experimental data and writing associated reports	D	n/a
Proven analytical and problem-solving capability	D	n/a
Experience of carrying out basic carpentry, electronics/electrical work such as wiring, error searching, soldering etc; mechanical work such as drilling, cutting, welding etc. in materials such as plastic and metal; and chemical work/lab safety (e.g. filter extraction, calibration gases).	D	n/a
Special Requirements:	Essential/ Desirable	Level 1-3
UK/EU/International Driving licence	D	n/a
Core Competencies This section contains the level of competency required to carry out this role. (Please refer to the competency framework for clarification where needed). N/A (not applicable) should be placed, where the competency is not a requirement of the grade.	Level 1-3	
Communication	3	
Adaptability / Flexibility	3	
Customer/Client service and support	3	
Planning and Organising	3	
Continuous Improvement	2	
Problem Solving and Decision-Making Skills	2	

Management and Developing Performance	1
Creative and Analytical Thinking	2
Influencing, Persuasion and Negotiation Skills	2
Strategic Thinking and Leadership	n/a

This Job Purpose reflects the core activities of the post. As the Department/Faculty and the post holder develop, there will inevitably be some changes to the duties for which the post is responsible, and possibly to the emphasis of the post itself. The University expects that the post holder will recognise this and will adopt a flexible approach to work. This could include undertaking relevant training where necessary.

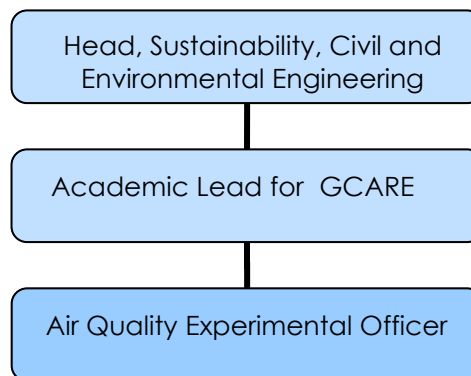
Should significant changes to the Job Purpose become necessary, the post holder will be consulted and the changes reflected in a revised Job Purpose.

Organisational/Departmental Information & Key Relationships

Background Information

The Faculty of Engineering and Physical Sciences is built on the core engineering disciplines of Civil Engineering Aeronautical Engineering, Chemical Engineering, Electronic Engineering and Mechanical Engineering, together with the core scientific disciplines of Computing, Mathematics Physics and Chemistry. Within these fields we enjoy a reputation for excellence in research and teaching.

Department Structure Chart



Relationships

Internal

- The post holder will work closely with the Academic lead for Air Quality (GCARE Director) and the research team of the GCARE.
- The post holder will communicate with undergraduate, postgraduate, PhD and post-doctoral researchers, academic and technical staff from a wide range of disciplines.
- The post holder will liaise with the Faculty Facilities Manager regarding the provision of space within the laboratory,
- The post holder will work with other members of academic staff to ensure that the technical facilities within the laboratories are properly established, and in due course with students.
- The post holder will closely liaise with the University and Faculty Health and Safety to ensure the Air Quality Laboratory is adhering to best practice and current legislation.
- Estates and Facilities – to report faults and overseeing their work within restricted areas and to discuss waste disposal (surplus equipment).
- Other Technical staff within the faculty to discuss waste disposal (hazardous chemicals and surplus equipment)

External

- There is a necessity within the post to interact with manufacturers in terms of routine servicing and new updates to equipment, in terms of the hardware and software, and also with external customers.
- External international and national collaborators of GCARE
- External contractors and service engineers