Job Title	SCD - Scientific Computing Graduate

Detailed Job Description

BACK GROUND

STFC's award winning graduate scheme offers structured training, a real job with real responsibilities from day one and a direct route to professional accreditation. It will allow you to use your degree in a dynamic, creative and collaborative culture.

In the Scientific Computing Department (SCD) at STFC (www.stfc.ac.uk/SCD), we research, develop and support leading edge scientific software and high-performance computational and data storage infrastructures to perform and support world class science. We have over 190 research software engineers, scientists and systems management staff who deliver projects and services to make a real difference to the scientific communities we support. These communities include our science partners in the Diamond Light Source, the Central Laser Facility, the ISIS Neutron and Muon Source, the JASMIN Superdatacluster, the CERN LHC and many more scientists across the UK and the world. They work across disciplines such as Climate and Weather, Particle Physics, Life Sciences, Engineering, Chemistry and many others. We help those communities to store and transfer data from small to large scale and provide software and computers to locate, analyse, simulate, and visualise data.

SUMMARY OF KEY DUTIES

Graduates work on real life projects and services from the first day to help SCD develop new data management systems, scientific software, compute, cloud and Big Data services for the scientific communities supported by STFC.

By working in a series of teams through the first two years of the traineeship, you will be able to develop your expertise in areas such as;

- Software engineering and scientific software development
- Linux , Cloud and High Performance Computing systems management and hardware
- Data storage and management of large, complex scientific datasets
- Software and Project Management
- Working with scientists to deliver to their requirements

You will get to work in a range of teams and projects over the whole software development lifecycle from project inception to running high quality production services, using best practice tools, techniques and working practices.

We use a large range of technologies and training is offered to ensure you have the right skills for the work. These include: Programming Languages (e.g. Java, C, C++, Python) operating systems and virtualisation (e.g. RedHat Linux, VMware, VCloud, OpenStack, OpenNebula), data storage (e.g. Ceph, Oracle, MySQL) High-performance computing (Infiniband, MPI, OpenMP, Intel Phi, NVIDIA GPGPU) and many more.

RESPONSIBILITIES

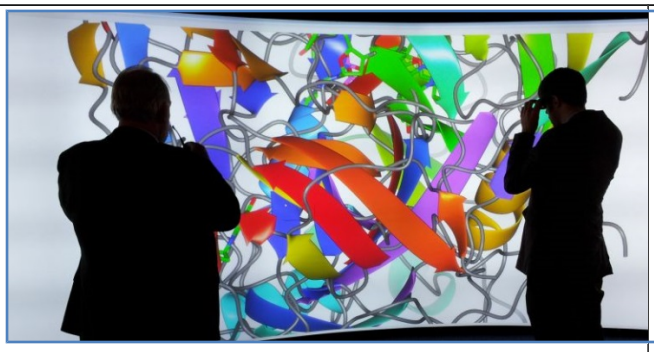
Within SCD you will undertake four 6 month projects covering a wide range of activities providing real-life solutions which will be used beyond the end of the project. You will work in a team and will be responsible for the technical development and outcomes of your project.

As you develop more skills and abilities, then the level of responsibility for delivery will increase.

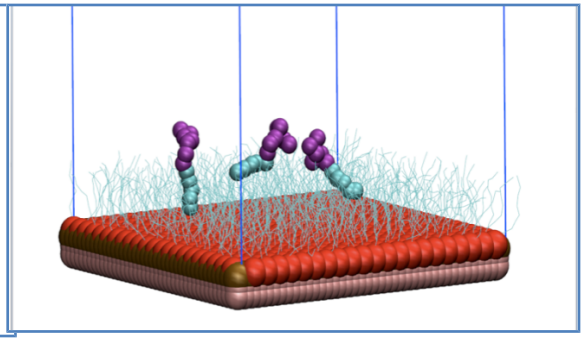
EXPERIENCE, KNOWLEDGE, SKILLS REQUIRED

At least two of the Desirables listed below and these may have been gained as part of a final year project, in work experience, or in any extra-curricular activities:

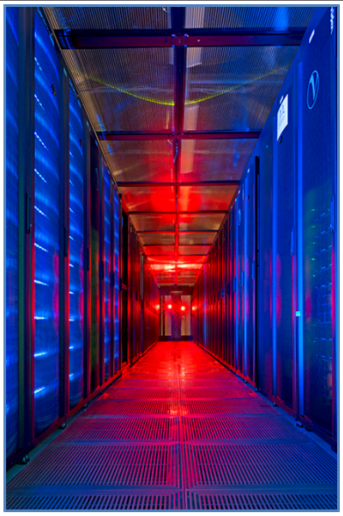
- Programming experience preferably in one or more of Java , C, Fortran, C++, Perl, Python or other programming languages
- Experience of Linux systems, Clouds, PC/Server hardware or networking
- Software Engineering /development methods
- Using scientific computational software
- Managing a small team
- Understanding of IT Security
- Managing a project
- Ability to communicate technical information to different audiences



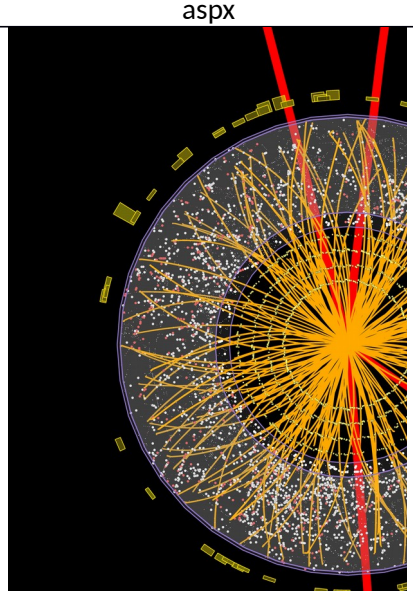
Visualisation of scientific data
http://www.scd.stfc.ac.uk/research/tech/43937.aspx



Computer Aided Formulations
http://www.scd.stfc.ac.uk/SCD/Publications/41153.aspx



JASMIN2 for Climate and Earth System Data
http://www.jasmin.ac.uk/



Higgs Boson Discovery
http://www.scd.stfc.ac.uk/SCD/Publications/41153.aspx

Team building exercise for graduates

POSITION AND PERSON REQUIREMENTS

SHORTLISTING CRITERIA

QUALIFICATIONS

Essential:

- 2:1 or above, honours degree in a relevant discipline
- Graduated within the last 18 months of this application
- Right to live and work in the UK

Desirable:

KNOWLEDGE/SKILLS AND EXPERIENCE

Essential:

Two or more of the Desirables listed below and these may have been gained as part of a final year project.

Desirable:

- Programming experience preferably in one or more of Java , C, Fortran, C++, Perl, Python or other programming languages
- Experience of Linux systems, Clouds, PC/Server hardware or networking
- Software Engineering /development methods
- Using scientific computational software
- Managing a small team
- Understanding of IT Security
- Managing a project
- Ability to communicate technical information to different audiences

PERSONAL SKILLS & QUALITIES

Essential:

- Good communication skills, able to influence people at all levels.
- Demonstrate good team working capabilities

Desirable:

INTERVIEW CRITERIA

PERSONAL SKILLS/QUALITIES

Essential:

- Good verbal and written communication skills (evidence of documentation/presentations needed)
- Good organising skills
- Creative approach to problem solving

Desirable:

KNOWLEDGE/SKILLS AND EXPERIENCE

Two or more of the Desirables listed below and these may have been gained as part of a final year project.

Desirable:

- Programming experience preferably in one or more of Java , C, Fortran, C++, Perl, Python or other programming languages
- Experience of Linux systems, Clouds, PC/Server hardware or networking
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- Managing a small team
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Essential:

Desirable

SPECIAL REQUIREMENTS

Essential:

- The willingness to learn new skills, both technical and non-technical
- Demonstrates a drive and determination to achieve results
- Open minded and flexible in relation to the type of work assigned to them
- Good communication skills, able to influence people at all levels.
- Demonstrate good team working capabilities,

Desirable: