UK Atomic Energy Authority

Application Pack

UKAEA Talent Pools

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UK Atomic Energy Authority

The UK Atomic Energy Authority (The Authority) is one of the world's leading research organisations supporting the development of fusion energy. Its primary mission is to advance fusion science and technology to the point of commercialisation of fusion energy and to position the UK such that it has a significant role in the fusion energy market. This is done through the Culham Centre for Fusion Energy (CCFE).

UKAEA has 1300 staff and agency supplied workers, including world-leading scientists and engineers, fostering close links with international partners, industry and academic institutions; it also supports the development of the Culham Science Centre and Harwell science, innovation, technology and business campus. It is a Non-Departmental Public Body sponsored by the Department for Business, Energy and Industrial Strategy (BEIS).

The activities of UKAEA include:

- operating the Joint European Torus (JET), Europe's premier fusion facility, under a contract with the European Commission;
- the UK fusion research programme, including a major upgrade to the Mega Amp Spherical Tokamak (MAST) device, funded by a grant from the Engineering and Physical Sciences Research Council (EPSRC);
- development of new facilities on the Culham site, such as RACE (Remote Applications in Challenging Environments), MRF (Materials Research Facility) FTF (Fusion Technology Facilities) and H3AT (Hydrogen-3 Advanced Technology) centres as well as various other to develop the technologies required for demonstration fusion reactors;

- ownership and management of the Culham Science Centre, freehold ownership of most of the Harwell campus and a share in the joint venture (with STFC and a private sector partner) to continue the development of the campus as a vibrant science, innovation, technology and business campus
- a business development programme, in both fusion and adjacent sectors such as materials, robotics, neutronics, component testing, tritium handling, advanced computing and modelling, as well as work for ITER (see below), and
- management of historic liabilities, and of the Authority's pension schemes.

ITER is a global scientific collaboration to prove the feasibility of energy from fusion on an industrial scale. Construction of the ITER facilities is underway at Cadarache in the south of France. Europe's ITER agency, Fusion for Energy, allocates grants and contracts to fusion laboratories and industry to complete the research and design for specialist ITER systems and construction of major components, and UKAEA has been successful in winning a number of these grants or contracts or supporting UK industry to win contracts.

UKAEA manages an overall annual budget of around £115m, with income primarily received through Euratom, BEIS and EPSRC programme funding.

Fusion Power Systems at UKAEA

As ITER nears completion, fusion energy is crossing into an exciting new era – an era which will see the design and subsequent construction of the first generation of fusion power plants. UKAEA is growing to position the UK to play a leading role in the delivery of fusion power, ensuring that the immense societal and economic benefits are realised as soon as possible.

UKAEA is a strong partner within the EUROfusion consortium, which coordinates fusion energy research across Europe. This European strategy is to build on the science and technology research outputs that will be obtained from ITER and the IFMIF-DONES fusion materials test facility, to deliver a robust design point for a demonstration fusion power plant called DEMO. In anticipation of commercial fusion power plants beyond DEMO, EUROfusion is developing a parallel Prospective R&D (PRD) programme to guide their design.

During the 1990's UKAEA pioneered a compact form of fusion facility called the spherical tokamak (ST), first with the experimental START device, and then MAST. The first results from these facilities were promising, and led to a variety of designs for compact fusion power systems that showed potential for a lower cost route to fusion energy – this is the basis for the UK's new STEP (ST for Energy Production) fusion power plant programme, which we are developing in parallel with our EUROfusion partnership. STEP seeks to advance the ST as a key element of a cheaper, faster pathway to commercialise fusion.

In recent years, UKAEA has rapidly established a world-class capability across key disciplines for fusion power:

(1) Operating the JET fusion device for Europe – the only tokamak in the world that can work with the tritium fusion fuel

(2) The new RACE facility for developing and demonstrating remote applications in challenging environments

(3) The Materials Research Facility for analysing the properties of materials following irradiation elsewhere

(4) Funded by EPSRC, a £55M upgrade to MAST, which will start operating in 2019

(5) The Fusion Technology Facilities to test components in fusion-relevant environments (albeit non-nuclear)

(6) The H3AT tritium research facilities

(7) An emerging scientific and engineering advanced computing programme to integrate outputs from our facilities and accelerate timescales to fusion realisation.

Continued growth in skills is required, partnering with industry and academia to maximise the benefits from these capabilities, and position the UK amongst the leaders in the new era of fusion power plant design.

The Roles

In order to realise its ambitions to be amongst the first to deliver fusion power, UKAEA needs to expand its capability further and is therefore in a position of strong recruitment, following very significant government investment.

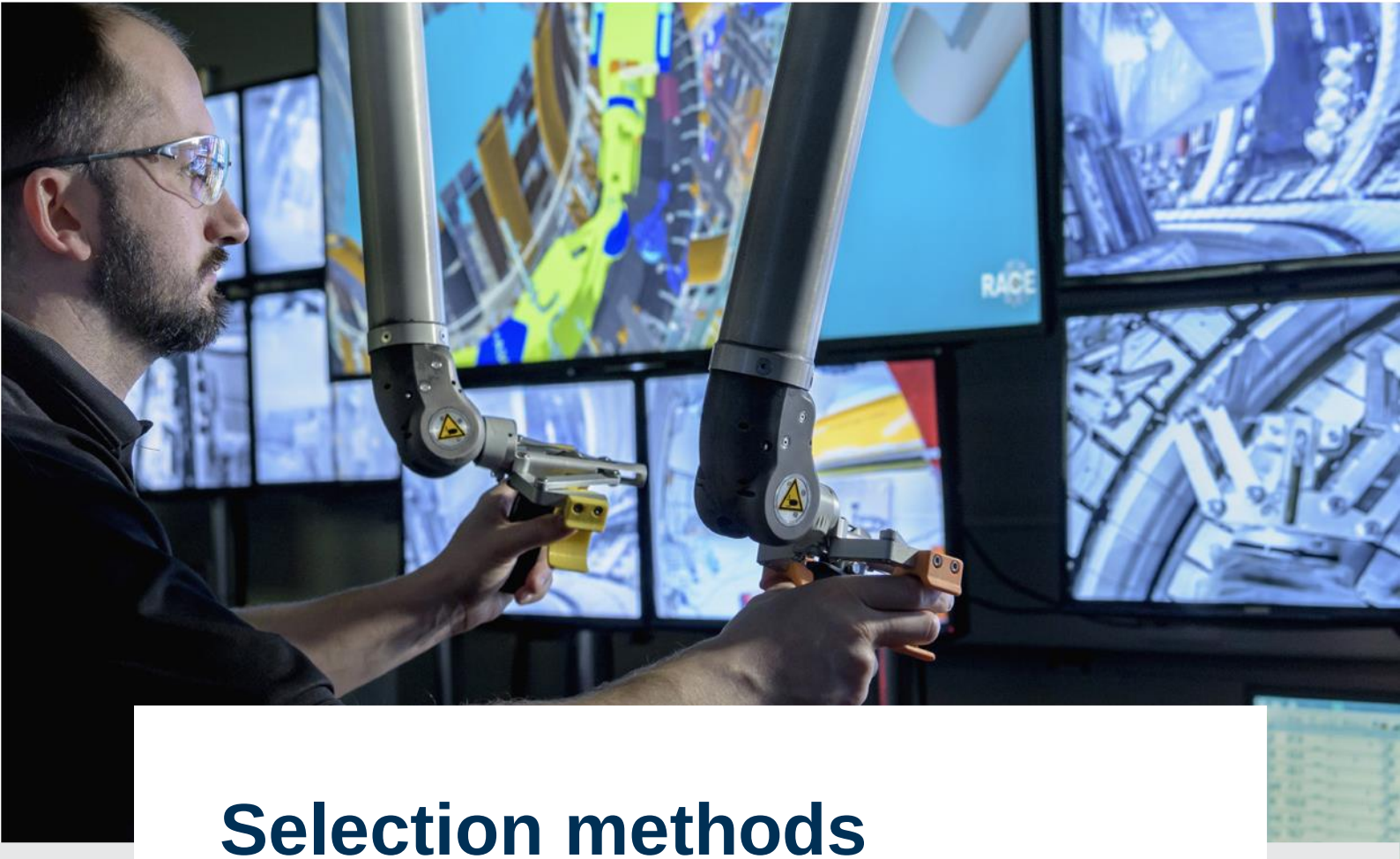
Designing a fusion power plant requires the integration of many systems, including heating, tritium breeding, exhaust, magnets and the plasma. The innovative new suite of fusion facilities that UKAEA have invested in provides a great platform on which we can design the first generation of fusion power plants, both through our own national programme on the spherical tokamak and also as a major partner in the European DEMO and Prospective R&D programmes, as well as internationally.

In order to exploit our new fleet of fusion facilities, we are seeking to enhance our numbers of world-class scientists and engineers, especially in areas related to integrated design of fusion power plants.

We are seeking applications for the following roles:

- Materials scientists
- Plasma physicists and modellers
- Digital engineers
- Tritium scientists and engineers
- Systems engineers
- Plasma control specialists
- Mechanical/Material engineer/analyst
- Remote maintenance and operations specialist
- Nuclear engineers (process, waste, safety, etc)
- Project managers
- Electrical engineer
- Process/regulation specialists

You will be part of a multi-disciplinary, highly motivated team all focused on one aim – to be amongst the first to realise the societal and economic benefits of fusion power.



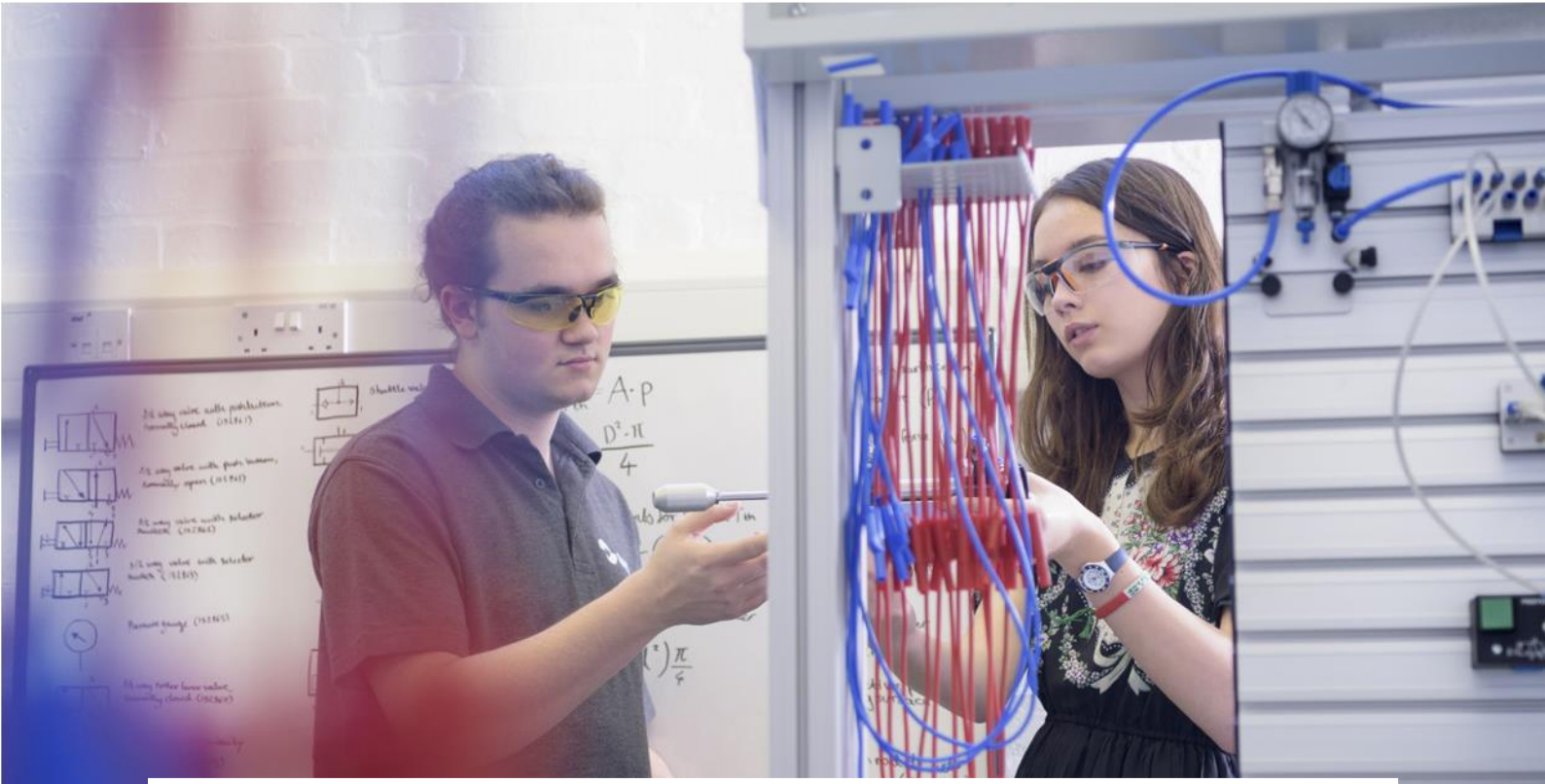
Selection methods

We follow a structured process to ensure our recruitment process is fair and consistent. Based on the quality of the applications we may choose to do a telephone screening initially should your application be shortlisted.

Our final selection process may involve a number of assessments of which you may be required to complete online prior to your interview or on the day.

On the day you will be required to attend a panel interview and in some cases you may be asked to deliver a short presentation to give you an opportunity to demonstrate your suitability for this role.

The assessment criteria for each role may vary, however in all cases the methods selected will ensure you are given a good opportunity to display your skills and experience.



Employee benefits

There is a friendly and collaborative atmosphere at UKAEA. Ideas and results are openly shared at weekly science and technology meetings, while Culham colloquia give staff an opportunity to hear from external scientific speakers – both from the international fusion community and the wider scientific world.

Annual Leave

The Annual Leave entitlement for employees is 25 days (pro rata for part-time employees) rising to 28 days after five years of service and then to 30 days after ten years of service. In addition employees are entitled to 10.5 holidays (including bank holidays and privilege days). Employees work a revised working week to cover the days that fall between Christmas and New Year when the site is closed. This means that no annual leave needs to be saved to cover these days. Employees are able to carry over up to ten days annual leave to the next leave year, if they wish. There is also the opportunity to accrue time off in lieu of extra work carried out as overtime, instead of receiving a payment, subject to line manager's discretion.

Bonus scheme

Employees are normally entitled to bonus payments depending on UKAEA performance in any given financial year. Milestones are set up in a way so that employees' performance has an influence on UKAEA performance in a given area. Bonus payments are paid on an annual basis as a percentage of salary (maximum 7%).

Flexible working

UKAEA promotes flexible working to enable employees to maintain a healthy work-life balance. Depending on the business needs, this can range from part time arrangements to allow for 'the school run' or elderly care to occasional home working and the ability to flex hours to fit with lifestyle choices. UKAEA is also open to job sharing unless otherwise stated.

happy to talk flexible working

Learning and development

UKAEA is committed to developing all members of staff by offering a wide range of programmes and support to suit their individual career aspiration. UKAEA's APS System gives all employees and managers the opportunity to highlight learning and development needs and opportunities throughout the year. In engineering these range from an advanced apprenticeship scheme certified by IMechE and IET, a graduate scheme also certified by IMechE and IET with IOP pending, we are similarly accredited for our Continuous Professional Development Schemes and are members of the IET Power Academy. In the physics field we offer PhD and MSc opportunities and Culham Research Fellowships. In addition to the structured development schemes we also provide individual development as needed by the business and career trajectories, including management development opportunities.

UKAEA Discounts

UKAEA Discounts is a free to use benefit, paid for by UKAEA, and offers numerous opportunities to regularly save money on normal everyday shopping. It has the potential to save you many £10s or even £100s per year.

Pensions

Employees of UKAEA are automatically enrolled into the UKAEA Combined Pension Scheme (CPS), which is a final salary defined benefit scheme. It includes the following benefits for members:

- A pension and lump sum payment at Normal Pension Age of 60. The pension is based on final salary and calculated as: years' service x pensionable final earnings x 1/80th. The lump sum is: 3 x the annual pension;
- Options at retirement to convert lump sum into additional pension or to commute pension to additional lump sum;
- Options for early retirement or partial retirement;
- Death in service benefits including lump sum of 2 x pensionable final earnings and spouse and dependents pensions;
- Spouse and dependents pensions on death after retirement;
- Ill health benefits of payment of pension and lump sum with possible enhancement;
- Additional Voluntary Contributions scheme.
- Employee contributions qualify for tax relief and the UKAEA also contributes. Some benefits are reduced for service less than 2 years. Employees can opt out of the scheme. Further details of the scheme can be found at the following website: **http://www.uk-atomic-energy-pensions.org.uk**
- Note: The CPS is expected to close for future accrual of benefits at some point in the future as part of the reform of all public sector pensions, and most UKAEA employees and all new employees will then be transferred to the Civil Servants and Others Pension Scheme (known as alpha) for future benefits.
- This is a Career Average Revalued Earnings (CARE) defined benefits scheme. It includes very similar benefits to the CPS, but the pension is built up each year based on 2.32% of salary and inflation each year.
- Further details of the alpha scheme can be found at the following website: **http://www.civilservicepensionscheme.org.uk/members/alpha-guide/**
- Benefits earned in the CPS at the date of the change to the alpha arrangement will be frozen and when paid will be based on service to the date of joining the alpha scheme and pensionable final earnings when the member leaves the alpha scheme or leave employment (whichever is earlier)
- i.e. the link to final salary for CPS benefits is maintained

Health and wellbeing

Research has shown that healthy and happy staff contribute more to their employer as well as the nation as a whole. As part of our health and wellbeing programme UKAEA provides a range of free benefits helping to further improve your health and wellbeing. There is an on-site Occupational Health service. There is also an Employee Assistance Programme which is a welfare initiative, available to all staff, by telephone, giving support and counselling, covering a wide variety of subject areas, such as financial, personal, work- related and legal.

Emergency family leave (Time off for dependants)

At discretion a member of staff can request time off work to deal with an emergency involving a dependent. This leave is to allow employees to deal with unexpected or sudden problems and to make longer term arrangements as necessary. There is no qualifying period necessary for this leave and depending on circumstances some of the time off may qualify to be paid.

Maternity leave

Where an employee qualifies for contractual maternity pay (at least one year's effective service), she will receive her normal rate of pay during the 26 week ordinary maternity leave period.

Following this the first 13 weeks of additional maternity leave will be paid at the appropriate statutory rate of SMP. The remaining 13 weeks of additional maternity leave will be unpaid.

Adoption leave and Paternity leave schemes are also offered.

Relocation

New entrants who are required to move their home to take up a permanent appointment may qualify to be given some assistance towards their removal expenses. This is subject to an HMRC ceiling of £8,000.

Cycle to Work Scheme

The scheme provides employees with the opportunity to purchase a new bike through a salary sacrifice scheme. The money will come out of your monthly salary (before tax). Employees are entitled to borrow up to £1,000 for a bike and accessories.

Parking facilities

Parking facilities are available across the site. Parking spaces are located close to offices and are free of charge. The site is monitored 24h/7.

Mentoring scheme

To help support its staff through their careers and professional development UKAEA have introduced a mentoring programme. Mentoring is a relationship in which one person, the mentor, helps another, the mentee, to discover more about themselves, their potential and capability. It can assist an individual by enabling them to seek guidance, support, help and feedback. The mentoring programme is a formal process which will be regularly reviewed and monitored. It recognises that individuals have different goals and aspirations and it endeavours to meet the individual's requirements and needs as well as those of UKAEA.

Eating and Drinking

At UKAEA, catering outlets such as shops, a sandwich bar and a restaurant have a great range of food and drinks for staff to choose from throughout the day. The majority of the food is made in-house.

There is also a Costa Coffee outlet offering fresh coffee and cakes.

Social clubs and events

There is a social club (CSSA) which organises discounted theatre trips to various London theatres for its members, as well as supporting a wide range of clubs and societies including Craft, Yoga, Jive, Netball and Kung Fu. UKAEA also runs an annual softball tournament as well as other seasonal activities throughout the year. During winter, colleagues have been challenged to a Winter Triathlon which includes a pub-style quiz, a skittles tournament and traditional Aunt Sally game.

Athena Swan

UKAEA is delighted to have been awarded the Athena SWAN bronze award which recognises the commitment of advancing the careers of women in Science, Technology, Engineering, Maths and Medicine (STEMM) employment in higher education and research. The Athena Swan panel works continuously on new initiatives to support greater gender equality in the workplace.

Core values

UKAEA prides itself on being a great place to work and are committed to the continual development of our people. The core values are Passion, Innovation, Leadership and Business Minded.

How to apply

Apply online

Visit **http://www.ccfe.ac.uk/Jobs.aspx** to apply via our online portal. You will need to complete an online application form. You will also be prompted to upload an updated CV and a cover letter.

Note: You may be asked to answer competency related questions. Please type your response in Word and then copy & paste on to the online application form. The system may time out and you are unable to save your responses and come back later. However, the rest of the application can be completed at your convenience and you can save your responses for review at a later stage but before final submission.

Please be advised that this vacancy may close earlier than stated if large or sufficient numbers of applications are received.

Help and assistance

For assistance or further information please email our recruitment team at **recruitment@ukaea.uk**

The UK Atomic Energy Authority's mission is to lead the commercial development of fusion power and related technology, and position the UK as a leader in sustainable nuclear energy

UK Atomic Energy Authority

Find out more
www.gov.uk/ukaea

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