

KTP Associate: Design Engineer in Association with Peak Scientific

Department	Mechanical and Aerospace Engineering (www.strath.ac.uk/mae/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Research	Reference No	21653
Reports To	Head of Department through Dr E. Minisc (Academic Supervisor) and Mr Iain Williamson (Industrial Supervisor)	Grade:	RS79
Salary Range:	Up to 30K plus development budget	Contract Type:	Fixed Term (24 months)
FTE:	1 (full time)	Closing Date	Wednesday, 5 August 2015

Job Advert

Design Engineer, Peak Scientific Instruments Ltd.

This is an exciting opportunity to develop a state-of-the art design capability within a thriving engineering company. Located in Renfrew PA4 9RE (Paisley), Peak Scientific Ltd, is a manufacturer of laboratory gas generators including Nitrogen, Hydrogen and Zero Air suitable to operate most laboratory analytical applications such as LC/MS (liquid chromatography mass spectrometry) and GC (gas chromatography). It employs over 350 people, mostly based in their Glasgow head office, but increasingly expanding in USA, India, China, Mexico, Brazil, South Africa, France, UAE, Australia and Japan.

The Company is developing its next generation of Nitrogen generators and is seeking a well-qualified and ambitious graduate engineer to develop new design capability, applying advanced engineering modelling tools and optimisation techniques within the Company's product design process.

The post is offered as part of a 2-year Knowledge Transfer Partnership (KTP) between Peak Scientific and the University of Strathclyde. The successful candidates will be based at Peak Scientific's premises in Glasgow, working alongside the staff in the Design Engineering department and will be supported by staff at Strathclyde University's Department of Mechanical and Aerospace Engineering.

Applicants should have a minimum MEng in Mechanical Engineering or a Masters-level qualification in a related discipline, preferably with distinction. It is also anticipated that candidates will have a good knowledge of fluid dynamics and heat transfer and familiarity with some of the numerical approaches and tools for fluid dynamic and heat transfer analysis. Experience in the use of optimisation techniques and evidence of previous, successful product design would also be beneficial. The ability to write coherent reports and excellent communication skills is essential.

In addition to working with a successful company, the successful candidate will receive a generous personal development budget and will be given the opportunity to advance their technical and managerial competences. The candidate will also have the opportunity to work towards a higher degree and management qualifications.

Although this is initially a 24 month post, the company sees huge potential for the successful candidate to progress to a permanent post within the company.

Job Description

Brief Outline of Job:

Working closely with staff at Peak Scientific and from the Department of Mechanical and Aerospace Engineering, the successful candidate will work on the development of its new range of Nitrogen generators. Specifically, the work will focus on the design of the critical compressor unit and its enclosure. Improving this element of the Nitrogen generator will lead to increased product lifespan, lower noise levels, and reduced running and maintenance costs.

The successful candidate will be expected to use advanced modelling tools to re-design the cooling enclosure for the compressor, with a view to reducing operating temperatures and noise. It is anticipated that this activity will involve the use of 3-D CAD tools such as SOLIDWORKS, CFD software and require the application of optimisation techniques. The job will also involve working with Peak Scientific staff on the development and testing of production prototypes, with the ultimate objective of launching a new product line.

A further aspect of the role will be to use the generator re-design and a platform for developing new design capability within the company. The successful candidate will therefore play a key role in helping the company develop a new approach to product design, training of staff in the effective use of advanced modelling tools and optimisation.

Main Activities/Responsibilities:

1. Application of advanced design tools and optimisation to a new Nitrogen generator design.
2. Testing and assessment of prototype devices.
3. Development of a new company product design methodology and Staff training.
4. Project management and reporting to Peak Scientific and Strathclyde staff.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E.1 MEng/MSc (or equivalent professional experience) in mechanical or aerospace engineering, applied mathematics, or computer sciences

Experience

E.2 Experience in CFD modelling and simulation.

E.3 Experience in fluid dynamics and transfer

E.4 Experience in CAD modelling (preferably, but not necessarily, SolidWorks)

D.1 Experience in acoustic analysis and related noise suppression techniques and practices.

D.2 Experience in engineering optimisation

Job Related Skills and Achievements

E.5 Computer programming ability

E.6 Ability to plan and organise own workload effectively

E.7 Ability to listen and to present complex information in an accessible way to a range of audiences (it is essential that the candidate is able to produce reports on results/deliver presentations in English).

Personal Attributes

E.8 Ability to work as part of a team whilst also being self-motivated and able to take ownership of a task.

E.9 Excellent communication skills and ability to act as an interface between the company and academic team.

Application Procedure

Applicants are required to complete an application form including the name of two referees who will be contacted before interview without permission, unless you indicate that you would prefer otherwise. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Dr Edmondo Minisci, Lecturer (edmondo.minisci@strath.ac.uk / 0141 574 5059).

PVG Check

This position involves regulated work, making it a legislative requirement that the successful candidate becomes a member of the Protection of Vulnerable Groups Scheme. If appointed, employment with the University will not be confirmed, until membership of the Scheme has been received. The successful applicant will be precluded from working with protected groups until that time.

Pre-employment health screening

An offer of appointment will be subject to a medical assessment by Occupational Health. An individual who accepts an offer of employment must complete a confidential medical questionnaire and forward it to the Occupational Health Nurse within 5 days of receipt. If further information is required the individual may be contacted by the OHN or a Medical Advisor and a personal appointment with the individual may be arranged. An unconditional contract of employment will not be issued until Human Resources receives confirmation that applicant is fit to undertake the duties of the post.

Probation

Where applicable, the successful applicant will be required to serve a 6 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Interviews

Formal interviews for this post will be held on Thursday, 13 August 2015.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.



Conditions of Employment

KTP Associates



1. GENERAL CONDITIONS

Members of staff are subject to the Charter and Statutes and the Ordinances and Regulations of the University, published in the Calendar, and to any amendments or additions thereto approved by the University Court and, in the case of the Charter and Statutes, Privy Council.

The University Court recognises the Strathclyde University and Colleges Union (SUCU) as the sole body with which it will negotiate and consult on all collective issues concerned with the terms and conditions of employment of Research staff. Such terms and conditions may be varied by the University Court after negotiation and consultation with SUCU.

Further information on the terms and conditions specified in this document is contained in the Staff Handbook, which also includes further details of such conditions as provision for sick/injury leave and pay, leave of absence, holidays and holiday pay, individual grievance procedures, review and disciplinary procedures and collective agreements. Should you not receive a copy of the handbook on appointment a reference copy is accessible by visiting Human Resources.

2. CONTINUOUS SERVICE

In the case of new appointments, unless otherwise stated in the letter of appointment, the date of continuous employment for the purposes of statutory employment rights will be taken to be the date of appointment contained therein. In the case of promotions, regradings or transfers, previous service is continuous.

3. ALLOCATION OF POST

The post to which each member of staff is appointed is allocated to both the University Department and/or other area(s), and the Company Partner named in the member's letter of appointment and any accompanying papers. Should the University Court and/or the Company Partner deem it necessary, in the furtherance of the objectives of the University (specified in its Charter) and/ or the objectives of the Company Partner, they shall, having consulted with the parties concerned and having received the advice of the Senate, re-allocate the post and/or the duties pertaining partially or wholly to it to another University department or area and/or to another Company Partner Department or to an associated Company. Any such re-allocation will be without prejudice to the other conditions of employment of the holder.

If the need arises during the course of employment for members of staff to work outside the U.K. for a period (or periods) of more than one month then such arrangements will be subject to mutual agreement. Members of staff would then be provided with a statement in advance setting out the terms covering such periods of employment.

4. RESPONSIBILITY AND SERVICE

The University is committed to ensuring that its business is conducted in an open and transparent manner and will take all appropriate steps to address risks of bribery or corruption. Members of staff are required at all times to act honestly and with integrity and to safeguard the resources for which they are responsible. The University has in place a robust Public Interest Disclosure (Whistleblowing) Policy to enable concerns to be brought to its attention. This is available at <http://www.strath.ac.uk/publicinterestdisclosure/>. Other relevant policies, e.g. Fraud Prevention and Conflicts of Interests can also be found on the University's website.

Each member of staff is responsible for the proper performance of allocated duties to the person or persons specified in the member's letter and any accompanying papers. Unless otherwise indicated

5. WORKING TIME

Working time is that required to fulfil the duties of the post and members of staff are expected to comply with the general working pattern of the KTP Company Partner. Further details in relation to working hours will be provided within the offer of employment and/or by the Company Partner on commencement of employment.

6. HOLIDAYS

Entitlement to accrue paid annual holiday will apply from the date of commencement and the accrual rate will be as per the provisions of the KTP Company Partner, Public Holidays will only apply where they are observed by Company Partner and it may be that these have to be taken from the annual leave entitlement where the Company does not apply a separate entitlement in this regard. Where Public Holidays are not observed by the Company Partner, these days may still be taken from the annual holiday entitlement, subject to authorisation. In cases where the Company Partner operates a period of annual closedown, these days may count against the accrued annual holiday entitlement, subject to the normal practices of the Company Partner. Further details and arrangements for requesting leave will be confirmed within the Offer of Employment and/or by the Company Partner on commencement of employment.

7. SICK LEAVE

During any period of absence through illness or injury provided the appropriate medical certificates are received the University will pay a member of staff (having taken account of the aggregate of all periods of absence due to illness during the twelve months immediately preceding the first day of the current absence) as follows:

Period of Continuous Employment at start of absence from work	Full Pay	Half Pay
Less than 1 year	1 month	1 month
1 year but less than 2 years	2 months	2 months
2 years but less than 3 years	4 months	4 months
3 years but less than 5 years	5 months	5 months
5 years or more	6 months	6 months

In order to manage the University's sick pay scheme the University requires to maintain sickness absence records on individual members of staff. When making payments after the expiry of statutory sick pay the University will deduct an amount equivalent to any benefit normally payable by the Department of Health and Social Security. For this and other details see staff handbook.

8. SALARY AND SUPERANNUATION

Salaries are payable monthly by means of a credit transfer to a specified bank account.

New members of staff, under age 75, will be admitted to membership of the Universities' Superannuation Scheme on taking up appointment unless they notify the University in advance, at the point of signing their offer letter, that they do not wish to be admitted to membership of USS. USS requires a contribution from the member (currently 6.5 per cent of salary for the Career Revalued Benefits section of the scheme and 7.5% for the Final Salary section of the scheme), to which a contribution of salary is added by the University as required by USS. If a new member of staff has previously been a member of USS and rejoins the scheme on or after 1 October 2011 they will be eligible to rejoin the Final Salary section of the scheme if they:

- left before 1 October 2011 and have deferred benefits in USS and are rejoining before 1 April 2012; or
- leave the Final Salary section after 30 September 2011 and rejoin the scheme within 30 months of leaving.

New members of staff may opt out of USS within three months of taking up appointment when they will be treated as if they had never been members. After three months members of staff who wish to withdraw from USS during their employment will be required to give a minimum of 28 days' notice in writing to the University. Any member of staff who wishes to opt out should contact the Pensions Section in the first instance.

A new employee's guide to joining USS is issued with the offer letter. Full details of the Scheme are available for reference purposes at the Pensions Section of Finance Office, John Anderson Campus.

9. PLACE OF RESIDENCE

The University does not normally place specific restrictions upon the place of residence of members of staff. They are, however, expected to reside in a location which is compatible with the satisfactory fulfilment of all the duties associated with their appointment and with membership of the academic community.

10. PERIOD OF EMPLOYMENT

Members of staff are employed on the conditions indicated in individual letters of appointment and any accompanying papers. The University is not obliged to give notice of termination or continue any employment beyond the end of the fixed term period. Where the period of the contract of employment is for one year or less it may be terminated short of the fixed term period by 1 month's notice on either side. Where the period of the contract of employment is for more than one year, or where there have been a further contract or series of contracts immediately consecutive, the employment may be terminated short of the fixed term period by 3 months' notice on either side.

Revised September 2011