

# KTP Associate "Building Energy Simulation Engineer"

Department	Mechanical and Aerospace Engineering ( <a href="http://www.strath.ac.uk/mae/">www.strath.ac.uk/mae/</a> ) in association with CO2 Estates Limited, Glasgow ( <a href="http://www.co2estates.com">www.co2estates.com</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Research	Reference No	50675
Reports To	The Head of Department through, Daniel Costola (Academic Supervisor)	Grade	KTP
Salary Range:	Up to £34k per annum plus £4k personal development budget	Contract Type:	Fixed Term (24 months)
FTE:	1	Closing Date	Sunday, 13 November 2016

## Job Advert

Based in Glasgow, CO2 Estates is a fast-growing company offering a software platform for delivering commercial real estate improvement analysis to determine retrofit strategies for mitigating risk and improving financial performance of commercial real estate (<http://www.co2estates.com>).

The University of Strathclyde in partnership with CO2 Estates Ltd seek to appoint a Building Energy Simulation Engineer. This position forms part of a Knowledge Transfer Partnership (KTP), which is supported by Innovate UK. KTP is a high-profile programme funding excellent projects of collaboration between academia and industry. As a KTP Associate you will be an employee of the University of Strathclyde but will spend most of their working time at the company's premises in Glasgow. You will benefit from extensive management training and a generous personal development budget.

To be considered for the role you will have a degree at Masters level (or above) in an engineering or related discipline. You will have experience of applying computer applications to solve engineering problems and a good knowledge of the construction industry and legislative expectations in relation to low carbon operation. Engaging with a variety of stakeholders from academia and industry you will be an excellent communicator with strong presentation and reporting skills.

Whilst the position is for a fixed term initially, it is the intention of the company to retain the Associate subject to performance, and for that individual to be a key member of the business.

## Job Description

### Brief Outline of Job:

The Building Energy Simulation Engineer will develop the company software platform. This will involve the deployment of techniques for the automatic calibration of dynamic energy models and their application to assist the facilities management process in large estates. This will entail the capture of operational performance data corresponding to metered energy use, environmental conditions and weather. This work will be undertaken in collaboration with academic partners at the University of Strathclyde.

An aspect of the project is the conversion of static energy models, as prepared for the purposes of regulatory compliance and voluntary benchmarking, to a dynamic form that supports realistic performance assessment to inform investment decisions. The Associate will be responsible for developing accurate predictive analysis leading to improved building performance and occupier wellbeing through plant optimisation and predictive facilities management. Such analysis will help to provide accurate metrics to support targeted investment in plant and building fabric.

## Main Activities/Responsibilities:

1.	Support the day-to-day business activities of CO2 Estates in relation to the application of energy modelling in a regulatory context.
2.	Evolve the company software platform by introducing advanced simulation techniques.
3.	Translate automatic model calibration techniques from the research to the commercial context.
4.	Help bridge the performance gap by linking performance assessment software to large estate performance monitoring.
5.	Develop solutions relating to the delivery of performance information to facilities managers and others.
6.	Ensure that the knowledge generated in the project is fully embedded in the company's business offering.
7.	Perform building energy simulation in the context of knowledge transfer activities.
8.	Perform building energy simulations and energy audits in existing buildings to support decision-making on retrofit options.

## 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)

E1 Undergraduate degree in engineering or a related discipline.

D1 Postgraduate degree related to the built environment.

### Experience

E2 Experience of applying computer applications to solve engineering problems

E3 Knowledge of the construction industry and legislative expectations relating to low carbon operation

D2 Ability to code using at least one high-level programming language or statistical package (e.g. Ruby, R).

### Job Related Skills and Achievements

E4 Interest in and a proactive attitude towards software engineering applied to engineering problems

E5 Ability to manage projects and liaise effectively with construction sector personnel

E6 Capability to undertake independent work or work within a multi-disciplinary team, supporting or leading as required

E7 Excellent communication skills both written and verbal

### Personal Attributes

E8 Good interpersonal skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences

E9 Motivated and enthusiastic

E10 Ability to report and present results in an open forum and to line managers

## Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

## Other Information

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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 Daniel Cóstola ([daniel.costola@strath.ac.uk](mailto:daniel.costola@strath.ac.uk)/0141 548 5011).

This position forms part of the Knowledge Transfer Partnership (KTP) funded by Innovate UK. To find out how KTP works with business and the University, and the vital role you will play if you successfully secure a KTP Associate position. Please visit: [www.ktpws.org.uk](http://www.ktpws.org.uk)

### 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 in late November/early December.

### 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.

The University operates probationary periods for new staff, the duration of which will be specified in individual letters of appointment. The normal probation period for posts in this staff category is 6 months. Further guidance on probationary procedures is published at <http://www.strath.ac.uk/staff/policies/hr/>.

Further information on the terms and conditions specified in this document and other staffing policies and procedures can also be found at [www.strath.ac.uk/hr](http://www.strath.ac.uk/hr).

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:

<b>Period of Continuous Employment at start of absence from work</b>	<b>Full Pay</b>	<b>Half Pay</b>
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, aged under 75, will be admitted automatically to membership of the Universities Superannuation Scheme (USS) on taking up appointment. If you are already in receipt of a USS pension you will join USS in accordance with pension auto-enrolment regulations. USS

requires a contribution from the member, currently 8 per cent of pensionable salary. A contribution, currently 18 per cent of pensionable salary, is paid by the University. From 1 April 2016 all members are part of the career revalued benefits scheme called the USS Retirement Income Builder. From 1 October 2016 a threshold, initially of £55,000 a year, will apply to the maximum salary that counts towards the USS Retirement Income Builder. From the same date a new defined contribution section of the scheme called USS Investment Builder will open and any contributions above the threshold will be invested in this section. The exception to automatic membership of the pension scheme applies if your post is located out with the UK in an EU member state. If this is the case membership of USS is not available to you.

New members of staff may opt out of USS within three months of taking up appointment and will then be treated as if they had never been a member of the scheme. 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, Finance, in the first instance ([pensions@strath.ac.uk](mailto:pensions@strath.ac.uk)). Please note that if you are a member of Pensions Plus and withdraw from USS with less than two years of membership, or cease employment with the University and have less than two years of USS membership, the option of a refund of pension contributions will not be available to you. Instead, USS must provide you with a pension benefit that is payable from your retirement date.

The University reserves the right to alter or withdraw Pensions Plus as it sees fit or as required to comply with legislative changes. Withdrawal or amendment of Pensions Plus will not affect your membership of USS. If you do not wish to participate in Pensions Plus but wish to remain in the pension scheme please contact the Pensions Team who will provide you with a non-participation form.

Information regarding pension scheme membership can be found on the Pensions pages of the University's website. Full information regarding USS can be found on the USS website – [www.uss.co.uk](http://www.uss.co.uk)

## **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, except during the probationary period when the notice period is one month.

Revised April 2016