

# System Reliability Engineer (KTP Associate) in association with AP&A Ltd

Department	Naval Architecture, Ocean and Marine Engineering ( <a href="http://www.strath.ac.uk/naome/">www.strath.ac.uk/naome/</a> ) in association with AP&A Ltd, London ( <a href="http://www.apanda.com">www.apanda.com</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	KTP	Reference No	97669
Reports To	The Head of Department through, Dr Iraklis Lazakis (Academic Supervisor) and Stylianos Korkodios (Company Supervisor)	Contract Type:	Fixed Term (24 months)
Salary Range:	Up to £29,600 per annum plus £4k personal development budget	Closing Date	Friday, 19 January 2018
FTE:	1		

## Job Advert

A KTP Associate is sought to join the Department of Naval Architecture, Ocean and Marine Engineering to work on a Knowledge Transfer Partnership (KTP) project in partnership with the AP&A Ltd. The KTP Associate will be principally based at the AP&A Ltd, London, but will also spend periods of time at the University of Strathclyde as required.

KTP is a three-way project between a graduate, a business and a university. Graduates are recruited to manage strategic projects within a business, whilst being supported by a dedicated academic supervisor. Founded in 1975, KTP is one of Europe's largest graduate recruitment programmes (see [www.ktpws.org.uk](http://www.ktpws.org.uk)).

AP&A Ltd provides expert technical and commercial services to leading shipowners, shipmanagers and offshore clients worldwide. The company success has been built upon skilled project management and cost effective solutions. Every service the company provides is supervised by highly qualified industry experts and delivered with the highest levels of customer service. AP&A Ltd operates globally while the range of services offered to clients provide first-class assistance and trusted industry advice.

The aim of the project is to apply advanced data analytics, risk and reliability analysis tools and processes which will optimise ship operations, maintenance, repairs and logistics. The work will include modelling of ship systems and their interoperability in order to assess ship systems performance while also improving inspection, maintenance and repair intervals. The partnership will provide a unique opportunity for an enthusiastic graduate to be instrumental in reliability engineering and system modelling through advanced data analytics.

To be considered for the role you will be a graduate with an MSc or MEng degree in Naval Architecture & Marine Engineering, Mechanical Engineering or similar related discipline. You will have a thorough understanding of how to formulate equations describing a physical system and be confident in your ability to construct a numerical model to solve these equations. You will have programming languages and database development skills either through work experience or from previous research. You will have an ability to plan and organise your own workload and an ability to work as part of a team. Your experience should demonstrate that you are capable of working independently on a technically challenging project and delivering results. You should be excellent at planning and managing your work. This position will require you to engage with a variety of individuals including ship owners/managers/operators, Classification Societies, regulators and other industry stakeholders, so you will be capable of forming good working relationships with colleagues and communicating the results of your work clearly in technical presentations and reports.

The KTP Associate will be an employee of the University of Strathclyde but will spend most of their working time at the company's premises in London. It is anticipated that following this 24 month fixed term appointment, there may be the

opportunity for you to be offered future employment within AP&A Ltd. The position has an additional allocated training budget of £4,000 for personal development.

## Job Description

### Brief Outline of Job:

The KTP Associate will be predominantly based at AP&A Ltd in London and will play a central role in developing AP&A Ltd's capability in advanced data analytics, risk and reliability analysis tools and processes which will optimise ship operations, inspection, maintenance, repairs and logistics. The partnership will provide a unique opportunity for an enthusiastic graduate to be instrumental in reliability engineering and system modelling through advanced data analytics. The associate will be supported by the academic team at the University of Strathclyde and will develop mathematical models capable of predicting the performance of ship systems. Moreover, the associate will develop predictive maintenance modelling, incorporate reliability and criticality assessment methods and tools for ship systems and machinery, to contribute on the development of a maintenance management system, to develop a database for storing the monitored and simulated parameters and historical information with visualisation functionality, to develop a GUI for the DB and the selected models.

### Main Activities/Responsibilities:

1.	Assist in the delivery of applied research by conducting critical reviews, developing models, Databases and GUI, setting up simulation tools for performing simulation runs, analysing the derived simulation results and the monitored parameters, performing predictive maintenance reliability analysis using ship systems condition monitored raw and historical data.
2.	Manage and prioritise own workload within agreed objectives to ensure that all activities are completed to deadlines.
3.	Write up results of conducted applied research and contribute to the production of research reports and publications.
4.	Assist with professional and knowledge exchange activities to disseminate the project results.
5.	Contribute to the planning of research programmes.
6.	Prepare and deliver Project progress presentations to senior management and academic staff. Complete KTP Final report and contribute towards the dissemination of the KTP activities including publications, case studies and external presentations.
7.	Liaise and communicate with AP&A Ltd management on the work performed throughout the project. Own and deliver the KTP work programme; this will include holding monthly project meetings with local stakeholders and presenting progress reports/updates to KTP Local Management Committee every 4 months.
8.	Engage in continuous professional development
9.	Interact with other stakeholders within AP&A Ltd and the SME partner in this project to ensure that the project progresses according to planned timelines.
10.	Train AP&A Ltd personnel in risk, reliability and other data analysis tools developed over the duration of the project to ensure continued use of the platform methodologies beyond the duration of the project.

## 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 Honours Degree in Naval Architecture and Marine Engineering, Mechanical Engineering or similar discipline

E2 MSc or MEng in Naval Architecture and Marine Engineering, Mechanical Engineering or similar discipline

### Experience

E3 Thorough understanding of how to formulate equations describing a physical system

E4 Ability to construct a numerical model to solve sets of equations

E5 Ability to conduct careful experiments and interpret the results correctly

E6 Experiencing using risk/reliability analysis software (e.g. Fault Tree Analysis, Bayesian Belief networks, etc.)

E7 Experiencing modelling of ship systems

E8 Databases structure and DB development

- E9 Ability to conduct individual research work, write reports and disseminate results and prepare research proposals.
- D1 Sufficient breadth or depth of knowledge in the relevant discipline/s to effectively contribute to the research programme/s
- D2 Experience of applying computational modelling in industrial R&D

### **Job Related Skills and Achievements**

- E10 Excellent organisational, interpersonal, verbal and technical writing skills
- D3 Strong computer programming skills including programming languages and databases development (MATLAB/Simulink, Java, etc.).
- D4 Journal/Conference publications in the field of marine systems engineering.
- D5 Site field related knowledge/expertise

### **Personal Attributes**

- E11 The ability to learn new programming languages as required
- E12 Ability to work both independently and within a team environment, prioritise time and balance multiple research projects simultaneously
- E13 Ability to report and present results in an open forum and to line managers
- E14 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences
- D6 Ability to apply initiative, creativity and judgement in identifying areas for research and when interpreting research data

## **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 must 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**

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 Iraklis Lazakis ([iraklis.lazakis@strath.ac.uk](mailto:iraklis.lazakis@strath.ac.uk)/0141 548 3070).

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)

### **Conditions of Employment**

Conditions of employment relating to the KTP Associate staff category can be found at: [Conditions of Employment](#).

#### **Probation**

Where applicable, the successful applicant will be required to serve a 6 month probationary period. Moreover an appraisal report will need to be provided by Month 3 of the project.

#### **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 at AP&A Ltd office in London on Monday, 5 February 2018.

#### **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.

