Project Title:
18/04: Radar Wind Profiler at Sea (RWP@Sea) – Feasibility study for the hardware concept

Company:
S&AO Ltd

Supervisor:
Dr. Dirk Klugmann

Location:
Harwell Campus – work from home / home University possible during most of the time.

Company Description:
S&AO Ltd is the innovation company re-writing the atmospheric observations sector with new solutions.
Under the brand name visionAIR-Klugmann it offers solutions that deal with known shortcomings and capability gaps of existing remote sensing systems. These solutions provide users with the information they need at costs they can afford and allow new kinds of observations and applications.
S&AO Ltd is the observation systems developer that combines scientifically established methods with latest components into sensor technique – brand name visionAIR-Klugmann – providing affordable and reliable operational measurements. This enables organisations using meteorological data to optimise their operations, save money and prevent the loss of lives.

Project Description:
The project is a feasibility study for the hardware of a sea surface based Radar Wind Profiler (RWP). It is the crucial first step for rolling out a RWP network on the global oceans for complementing satellite based wind observations. The project will implement an RF design of the applicant.
The project will be realised in phases. The first is the selection of one out of two potential RF designs based on the availability and documented performance of the required components. Following this, the required components will be procured.
The second project phase starts with the incoming inspection of the procured components after delivery. Then the individual components will be set up for stand-alone operation, allowing to run performance tests.
In the third phase the feasibility demonstrator will be assembled. Command and Control as well as data acquisition software will be produced to run the end-to-end system of the feasibility demonstrator. This again will undergo a performance test.
If project progress allows, the optional fourth phase would be to run the first demonstration of the feasibility demonstrator. This would include pointing the feasibility demonstrator on easily detectable targets and evaluating the data recorded of the return signals.

The project will run over 8 weeks (40 working days). However, the project work can be spread over a longer period depending on the availability of the placement student during term time.

Applicant Specification:
A promising candidate is likely to be in the 3rd / 4th year of an electro engineering or physics / meteorology related undergraduate course and to provide sufficient mathematical and computing knowledge.
Candidates in the 3rd / 4th year of a computer science or applied mathematics related undergraduate course with an interest in hardware systems integration and basic electronics knowledge are also anticipated to have the chance for a successful application.
Candidates from completely different backgrounds that cover the skills set indicated above will also be considered.
The successful candidate is occasionally required to commute to the Harwell Campus for meetings or specific tasks during the working week.

Minimum Requirements:
Good knowledge in at least one of the following areas:

- Electronics
- RF engineering
- LabVIEW
- Octave / Matlab
- Statistics and numerical mathematics

Preferred Additional Requirements:
Knowledge in more than one of the areas listed under *Minimum Requirements*.

Further details:
8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date on or before 7 March, 2018. Salary is £1,500 per calendar month.

Closing Date for Applications: 8th February, 2018 Applications will be through the online form attaching a CV, before the closing date. They will be checked for eligibility and forwarded to the employer.