

From: Robert Banim, BAE Systems (robert.banim@baesystems.com)

Subject: Vacancy for CFD developer

The Bristol-based Computational Engineering Dynamics Group research, develop and maintain Computational Fluid Dynamics tools used to understand the aerodynamic and hydrodynamic characteristics of BAE Systems platforms. In addition to tool development, the group is regularly called upon to address specific engineering problems by applying their CFD-related expertise using a range of in-house and commercial codes. The BAE Systems corporate CFD suite includes tools for in-house CAD geometry handling, mesh generation, unsteady Navier-Stokes flow solver, ice accretion modelling and acoustics propagation tools.

Working in the CFD group at Filton, the job is primarily to develop and support the BAE Systems corporate CFD suite and related software packages. Development of these codes enables BAE Systems access to a tailored and advanced fluid flow simulation capability. Specific long and short term simulation capability requirements are agreed and prioritised with the programme/project teams across the BAE Systems Air and Maritime businesses. The Group is required to hold expertise on emerging CFD related technologies and provide advice on the future direction of the company's simulation capabilities. The group interacts closely with users across the business both to set development requirements and to support the existing capability as it is deployed on programmes.

In addition to undertaking CFD development tasks, the successful candidate will also be expected to use their experience to apply both in-house and commercial CFD tools to a wide range of aero and hydrodynamic problems. Knowledge and experience is also expected to be applied in support of the Groups commitment to providing an aero and hydro acoustic propagation simulation capability.

Education (minimum):

- Degree or higher degree in engineering, physics, mathematics, computer science or a related discipline.

Responsibilities:

- To utilise skills and knowledge to develop enhancements to simulation software and toolsets, ensuring that they are delivered on time and to cost and incorporate leading edge CFD techniques and software implementation.
- To utilise skills and knowledge to model specific fluid dynamic related problems using in-house and commercial toolsets and to analyse, assess and appropriately report the results of these studies.
- Maintain up-to-date technical knowledge in CFD, fluid dynamics, acoustic propagation and related technologies.
- Maintaining suitable records and archives for projects to allow reuse of work where appropriate and conform to mandated quality and document management processes.

Skills:

- Development and application of Computational Fluid Dynamics technologies.
- Excellent computer skills (Unix and Windows platforms).
- Excellent programming skills in C/C++, Fortran and knowledge of High Performance Computing.
- In-depth understanding of Fluid Dynamics theory and related mathematical formulations.
- Experience of commercial CFD toolsets desirable.
- Understanding of typical numerical schemes for solving Navier-Stokes equations and turbulence modelling.
- Good standard of written and oral communication skills.

Competencies required:

- Works cooperatively and collaboratively with others, to be part of an effective small team.
- Ability to manage technical projects competently in order to ensure adherence with baseline schedule, scope and costs.
- Works to ensure compliance with mandated company processes.
- Ability to work with limited supervision, seeking advice or guidance from colleagues where and when appropriate.
- Able to establish good long-term working relationships within the Group and across the wider business, communicating effectively with customers and colleagues.
- Interest in maintaining knowledge in particular area of expertise, keeping up to date with current developments and events.
- Places SHE and the provision of a safe working environment for our employees and visitors at the highest level in terms of priority.
- Able to respond to, and understand, customer requests, maintaining clear communication, correcting problems and taking action to make things better for the customer.