

Role summary

We carry out detailed analysis, using state-of-the-art analytical software and tools that have been developed in-house. These ensure integration of highest performance strategies and their continual refinement and performance benchmarking.

Role definition

Job Title: CFD Analyst – Specialist Modelling Group

Reporting to: Partner on a day to day basis and ultimately to the Senior Partner

Responsibilities

- High proficiency in using Computational Fluid Dynamics (CFD) modelling (preferably OpenFOAM, Helyx.)
- Excellent, demonstrable understanding of fluid dynamics theory that underlies CFD modelling.
- Excellent understanding of thermodynamic principles, and the ability to apply these principles to the built environment and local microclimate.
- Manage the design process and co-ordinate engineering activities relating to the project.
- Conduct research and CFD simulations on internal and external aspects of built environment, covering different building physics related problems: Indoor thermal comfort, HVAC system performance, Outdoor thermal comfort, Outdoor pedestrian wind comfort and safety, Outdoor pollution dispersion, Passive scalar transport, Porous media, Wind driven rain, etc.
- Advise and support design teams in the integration of environmental design concepts and the assessment of building performance.
- Liaise with other members of the team towards the integration of energy efficient/low carbon solutions in shaping architectural form guiding the environmental system design.
- Support design teams in the use of environmental simulation tools.
- Devise methodologies for analysis and visualisation of specific environmental design problems.
- Present analysis results in the form of reports and presentations to clients and design teams internally.
- Contribute, or otherwise assist, as required.
- Thorough knowledge of and compliance with Foster + Partners procedures and standards.

Qualities and skills required

- Able to demonstrate ability to undertake the above responsibilities.
- Legally able to work in the country in which the position is based .
- High proficiency in using CFD with more than 3 years of related experience and solving environmental problems.
- PhD or master's degree in Engineering and/or Science related field (aeronautics, mechanical engineering, fluid dynamics, thermodynamics).
- Good understanding of building services and mechanical systems.

- Capability to resolve environmental problems using building physics as a basis.
- Advanced proficiency and experience in the following: HPC systems, Linux/Unix, OpenFOAM, Helyx, Python, Excel.
- Proficient in Computer Aided Design, (preferably Rhino 3D).
- Ability to disseminate research knowledge to the Practice.
- Enthusiasm to pursue Environmental Design and Analysis as the central part of the individual's career development.
- Good communication and presentation skills.
- Able to demonstrate initiative and a proactive approach to daily tasks.
- Able to work under pressure and to tight deadlines.
- Excellent organisational skills.
- Able to manage sensitive and confidential information.
- Self- motivated and able to take responsibility.
- Able to manage and prioritise tasks and time efficiently.
- Good interpersonal skills and able to work independently and as part of a team.
- Flexible attitude.

Desirable

- Experience in the use of the following tools/ software packages: Radiance, Energy Plus, IES, Adobe InDesign.
- Coding skills in C++, Python, OOP and/or Excel VBA.
- Chartered or Registered to a professional board (CEnv, C.Eng, MCIBSE, MIE, MIEM).
- Some knowledge in thermal and energy simulations following the 'ASHRAE 90.1 Appendix G' and 'Part L' approach.
- Professional accreditation preferred in one of the recognised benchmarking tools, such as: LEED, BREEAM, etc.
- Good knowledge of Low and Zero Carbon technologies and their application to the built environment.

This description reflects the core activities of the role but is not intended to be all-inclusive and other duties within the group/department may be required in addition to changes in the emphasis of duties as required from time to time. There is a requirement for the post holder to recognise this and adopt a flexible approach to work. Job descriptions will be reviewed regularly and where necessary revised in accordance with organisational needs. Any major changes will be discussed with the post holder.

March 21