



## Apply here

### Start date

ASAP

### Duration

6 months

### Languages

Good spoken and written English levels are required (B2 onwards)

### Location

Bristol, England

Bristol is the largest city in the South West of England. It has a strong reputation for creativity, digital innovation, and social enterprise, and is the home of Oscar-winning Wallace and Gromit and urban artist Banksy. Offering a lively nightlife, bars and restaurants aplenty, musical diversity and many historical sites, in 2017, The Times newspaper voted it 'Best Place to Live in the UK'. ESPA has a thriving intern community in Bristol, so there is plenty of opportunity for socialising.

### Are you eligible?

Are you a registered student?  
Or

Are you eligible to participate in the Erasmus+ programme?

### Benefits

See website for details of all ESPA benefits. For all internships over 6 months, additional benefits will be paid. Details available at interview.

## Role

This is an exciting opportunity for a student who has a passion for science and technology, and a desire to continuously learn. The host company works across a broad range of industries, and you will be exposed to a variety of modelling and computing technologies. Mentored throughout, you will apply a combination of maths, science, and computing to real world simulation challenges to accelerate the development of engineering processes and design. Day to day you will develop and run simulations, using either first principles or existing tools, and deriving useful insights from them. The exact project(s) that you will be working on will depend on the business needs at the time of the placement. If you have a background in a physical science, maths, engineering, or computing sciences, then this is a unique opportunity to join the Model Based Engineering group as a Junior Systems Engineer, providing an invaluable addition to your CV and future career.

## Tasks

- Research and develop mathematical models of a physical process, drawing on published literature where appropriate and deriving new models where necessary
- Critically evaluate approaches and understand their assumptions to determine the best choice
- Implement models numerically, using either existing tools or writing bespoke models
- Validate against published data or experimental results as appropriate
- Apply in-house optimisation and sensitivity analysis toolkit to the model
- Use in-house HPC (High Performance Computing), if necessary, to understand the model behaviour and draw useful insight from the results.

## Desired Skills

- Strong mathematical background including a working knowledge of calculus and basic statistics
- Strong research skills and ability to critically evaluate
- Programming experience in any language, preferably with some experience of writing numerical simulations.

## The Host Company

The host company is a non-profit organisation that has specialised in offering high value design capabilities to companies by advanced modelling and simulation and high-performance computing. Their projects are developed for a broad variety of industries such as Aerospace, Automotive and Energy.