

Propulsion Control and Modelling Engineer

Role Description

Protolaunch is undertaking development work focused on throttle control of chemical propulsion systems.

The **Propulsion Control and Modelling Engineer** works within the engineering team to support thruster design and test. This includes primarily analytical design tasks to build functional models of different thrusters' performance under throttling conditions. These models will inform hot-fire test campaigns for validation and these tests will be conducted at our in-house test facility. Results from these campaigns will be implemented into an improved and predictive model.

We're looking for a motivated person to join the team and will consider a range of experiences, however, formal education in fluid dynamics and control theory methods at Masters Degree level or equivalent is essential.

As part of the engineering team within a small dynamic startup, this role will also engage directly with Protolaunch's institutional partners (European Space Agency, UK Space Agency, etc) and customers.

About Protolaunch

Protolaunch is a chemical propulsion SME established in 2019 focused on developing in-space propulsion systems. Protolaunch operates a dedicated Propulsion Test Facility located at E-Site, Westcott Venture Park, Buckinghamshire, UK with collocated office and lab facilities.

Protolaunch is developing a range of in-space propulsion products in-house and works with a number of commercial and institutional customers to offer outsourced R&D as well as testing & qualification services for space sector projects.

As Protolaunch is currently a small team of less than 10 people full-time. We're looking for someone motivated to get involved and prepared to accept a high-level of responsibility. As additional team members are employed at Protolaunch, this role will have a clear path for career progression to be a senior member of the growing engineering team.

Job Details

Job Location

This role primarily consists of modelling and design activities. Hybrid working arrangements with a mixture of in-person and remote is available with a minimum of 2 days per week in-office expected with in-office available 5 days a week if preferred. During test campaigns, and other times as needed, you may be required to travel to Westcott Venture Park, Aylesbury, Buckinghamshire, on a daily basis. Due to the remote location of the test facility there are few feasible public transport options.

Job Responsibilities

Protolaunch is a small dynamic startup and so all roles are expected to help colleagues and support work on other tasks according to business needs.

Compared to working at a large space sector Prime, Protolaunch can offer you the chance to move incredibly quickly and own aspects of the design and test process. This can support an accelerated route to professional accreditation/chartership.

For this role in particular, the primary responsibilities and measurements of success are:

- Taking ownership of modelling tasks
- Building analytical models (not CFD) and validating these with real data
- Reporting model outputs and design progress
- Take direction and balance multiple projects.
- Operate effectively in a dynamic team.
- Professionally engage with commercial and institutional partners as provided.

Essential Skills & Qualifications

- Masters degree in an Engineering discipline or equivalent subject.
- **Formal training and expertise in control theory methods and modelling, including:**
 - **Construction of block diagrams representing complex systems, identifying key inputs and outputs of internal blocks.**
 - **Identification of key physics in individual blocks and selecting correlations and governing equations.**
 - **Interpretation of Bode diagrams and Nyquist plots.**
 - **Ability to implement and linearise empirical correlations.**
- Mathematically competent and confident, with a particular emphasis on linear algebra and ODEs.
- Able to perform research work independently, including production of literature reviews.
- Ambition to apply control methods to rocket engines in a practical environment.
- Python programming language.
- Numerical understanding of thermodynamics as applied to rocket propulsion systems.
- Motivated to work in a small company with a rapidly changing startup environment.
- Passionate about space, curious and eager to learn.
- Take ownership and accountability for your own actions and mistakes.

Date: 1st October 2025

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- Can-do attitude and outstanding communication skills.
- Fluent English.

Desirable Skills

- Hands on practical experience building things, including use of additive manufacture.
- Experience modelling real-world systems.
- Experience designing and implementing test campaign.
- Experience designing/assembling pressurised fluidic systems.

To Apply:

Applicants should email a CV to careers@protolaunch.co.uk. In your email please include answers to the following questions:

- 1) At time of applying do you currently have right to work in the UK?
- 2) Are you prepared to work in-person at Westcott Venture Park when required?
- 3) Do you have a driving licence and your own vehicle? (ability to travel to Westcott Venture Park)
- 4) What would be your soonest available start date?
- 5) Please list any relevant control theory exams/certifications/education you have completed in the last 5 years and the corresponding score/grade.