

**Research and development of breakthrough alternative propellant Electric and Hybrid propulsion systems.**

**Code:** 18/48

**Company:** AVS UK

**Location:** Harwell campus, Oxfordshire

**Company Description:**

OUR SUCCESS IS OUR PEOPLE

AVS is proud to be one of the world's leading companies in the design and development of bespoke equipment for large science and research infrastructure across the globe. Our success is based on our people. We build trust through our technological and scientific competencies, strong dedication to our work, and are conscious about the importance of these qualities to enable our clients to achieve scientific and technical breakthroughs.

AVS UK conceives and develops unique mechanisms, instruments and robotics for Earth Observation, Exploration, Telecommunication and Science missions as well as Ground Support Equipment and In-orbit servicing applications. We are also working towards a new, extensive catalogue of space products covering thermal applications, mechanisms and Electric Propulsion systems, which enhance and create mission opportunities and capabilities. The variety of engineering and scientific knowledge at AVS allows us to work with exceptional teams and incredible technologies worldwide. This currently includes development of two instruments on the NASA M2020 Rover, innovative thermal control solutions for telecommunication satellites, the first European water plasma thruster and new ion thrusters for CubeSats.

In order to deliver such complex solutions, AVS UK seeks for highly qualified and technology passionate candidates to join our team in Oxfordshire in a permanent basis.

**Project Description:**

AVS is developing a wide range of new Electric Propulsion systems that will enhance the UK capability of Spaceflight and in-orbit space propulsion. The selected candidate will work in the design, modelling and development of new alternative propellant electric propulsion ion thrusters, plasma thrusters and/or hybrid propulsion architectures.

Some of his / her tasks will be:

- Post analysis results of previous AVS ion and plasma thrusters
- Material characterisation studies and alternative propellants suitability
- Design and modelling of Electron Cyclotron Resonance (ECR), microwave, electrospray or hybrid type thrusters

- Modular design of breadboard and engineering thruster models
- Propulsion system level engineering and design

The selected candidate will collaborate with top UK universities and research centres, and will experience the work at the forefront of space technology developments in a UK SME.

**Applicant Specification:**

**Minimum Requirements:**

- 2:1 Master's degree in Physics, Space, Astronautics or Engineering
- Availability to work in the UK.

**Preferred Additional Requirements:**

- First degree
- PhD in Space propulsion, Plasma physics, particle physics, Space topic, etc.
- MPhys + MSc in Engineering, Aerospace or Space
- Other courses will be an advantage.

**Further details:**

3-4 months placement.  
Salary £3,500-5,500

**Closing Date for Applications:**

Monday 5<sup>th</sup> of November 2018  
Start date: ASAP