

## Flow analysis and design optimisation for Sovereign Ammonium Perchlorate Composite Propellant (APCP) Solid Rocket Motors (SRMs)

### Up for a challenge?

Join us to work on a Defence-led research project with Endeavor Aerospace

#### Who can apply?

- Australian Citizens & Permanent Residents
- New Zealand Citizens
- Onshore international candidates

#### Program of study available

- PhD with UNSW

#### Industry partner and funding body

- [Endeavor Aerospace](#)
- [Defence Trailblazer](#)

#### Total annual stipend amount

- A base scholarship of \$40,000pa plus \$10,000pa top-up scholarship

#### Start date

- By September 2024

### About the project

Endeavour Aerospace is seeking a candidate for a PhD project on the design optimisation of Solid Rocket Motors, specifically analysing the combustion and flow using CFD. This project will enable you to design, manufacture and test fire SRM prototypes and you will develop skills that are highly sought after in the Australian Guided Weapons Explosive Ordinance Enterprise.

The aim of the project is to understand the SRM needs of the Australian GWEO enterprise and deliver the design of a SRM range that meets those needs. Key expected outcomes of this project will include;

- A report on forecast Sovereign SRM needs to fulfil the GWEO Enterprise demands
- A prototype APCP SRM capable of certification for use in the GWEO Enterprise with improved performance over SRMs currently on the market.

These outcomes will be significant for Sovereign GWEO capability, as they create a platform for Sovereign production of SRM's in Australia.

### Eligibility criteria

- Australian citizens and defence industry professionals are encouraged to a
- Students with experience in Aerospace propulsion, CFD and FEA will be well suited to this project.
- Be willing to share Intellectual Property with the industry partner and University by way of a Student Deed Poll.

### Benefits

- Work closely with experts on defence industry led projects
- Translate research into a tangible solution for Defence
- \$50,000 p.a. tax-free\* stipend (pro-rated for eligible part-time students)
- No tuition fees apply
- Acquire a unique set of skills and expertise
- Enhance your employability skills sought after by industry; graduates are highly regarded by employers
- Opportunities for local and international travel
- Work alongside world-leading researchers
- Gain industry experience and grow your networks
- Solve real life problems through industry engaged projects
- Publish your contributions
- Become an expert and make a real impact

\* Conditions apply

## How to apply

- Complete an [expression of interest](#)
- The primary supervisor will assess your eligibility, and if successful, will prompt your application for admission via UNSW.

## More about Defence Trailblazer

The Defence Trailblazer for Concept to Sovereign Capability is a once in a generation opportunity to strengthen the collaboration between defence, academia and industry whilst accelerating research and commercialisation.

In partnership with the University of Adelaide (UoA), the University of New South Wales (UNSW), industry partners and supported by the Australian Government, the initiative will skill the workforce of the future, support defence-focussed innovation, and play a leading role in accelerating the delivery of sovereign capabilities for the nation's security and prosperity...at-speed and at-scale.

Learn more: <https://dtb.solutions/>

## Industry Research Program

All students supported under the Defence Trailblazer initiative will participate in the Industry Research Program (IRP).

Candidates are located on-site at university and industry offices for at least 60 FTE days (pro-rated for eligible Masters candidates), to enable real-life professional development opportunities in an industry setting.

## Defence Research Capability

Academics participating in Defence Trailblazer are leaders in their fields.

UNSW adds a critical dimension to preparing defence forces across areas as diverse as Autonomous Systems, Hypersonics, Sensors and Space. The UNSW Defence Capability Portfolio showcases UNSW's excellence in defence research and technology and highlights work across academia, government and industry, as well as with global policy makers, to create a hub of defence-related knowledge. The vision is to translate this knowledge into impact which can transform Australian and global societies.

There's no greater reassurance for our community than knowing we're well prepared to prevent or avert threats to our security. UofA researchers support this in every domain: on land and online; in space, the air and at sea, working extensively with the Department of Defence and defence-related organisations in a variety of ways—as an advisor, research partner and producer of high-quality, career-ready graduates equipped to make our world a better and more secure place.

[Find out more](#) about defence research, and defence capability portfolios at UNSW

## Further information

For a confidential discussion contact:

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*Defence Trailblazer, together with UoA and UNSW, are actively working to support equity groups. We strongly encourage applications from people with a disability, veterans and women interested in working in non-traditional work settings*  
UNSW CRICOS Number 00098G

