

Job opening:

# Thermal Engineer

**Wyvern is making something big.** Our vision is to provide actionable intelligence from space, anywhere in the solar system. To achieve this we need to entirely reimagine how satellite Earth observation is done.

We're a rapidly growing space company in Western Canada, powered by humans who are passionate about space and are redesigning the satellite to enable a sustainable future for humanity. Wyvern has just finished Y Combinator's Winter 2022 batch and has acquired >\$9M in pre-seed, seed, and grant funding. If you're excited by the prospect of creating a step increase in the capability of space-based cameras, we want you on our team.

## What we're workin' on

Wyvern is developing unfolding space telescopes to capture high-resolution hyperspectral imagery from space.

Hyperspectral images contain more colors than other types of imagery, meaning these images capture the spectral signature of your crop or forest, for example. With hyperspectral imagery, however, it's hard to get quality images with a high signal-to-noise ratio and high resolution. To mitigate this, we're designing telescopes that are compact on launch and deploy in space, meaning we pack better performance in a smaller, cheaper-to-launch package. Our increased light collecting area will allow for more light in more bands while maintaining <5 m resolution.

We're looking for an thermal engineer to analyze and mitigate thermal susceptibility within our deployable optics-enabled telescope.

## Who you are

- You can explain technical concepts about your work to non-technical people and keep them engaged as you explain.
- You are able to independently solve engineering problems and have a solid critical thinking process.
- You have demonstrated the ability to work in a team environment with engineers, scientists, and support staff from multiple disciplines.
- You can use Solidworks to create complex assemblies, and have experience with finite-element analysis and orbital heating simulation tools (Ansys Mechanical, STK and SPEOS).
- You understand the methods of evaluating heat transfer, specifically conduction and radiation.
- You have experience with heat transfer problems and thermal simulations.
- You have experience designing thermal management systems (both active and passive).



- You are familiar with hardware for space, vacuum and/or similar harsh environments as well as environmental testing experience (e.g. TVAC).
- You have experience defining requirements related to structural and thermal performance and other environmental requirements, and have followed them through to verification.
- You have experience in operating, editing, and writing experimental instrumentation software in python or MATLAB.
- Knowledge of the constraints of the space environment on mechanical/thermal design and performance is an asset.
- You must have a Bachelor's degree in mechanical engineering, applied science, or equivalent.
  - An ideal candidate may have a graduate degree in mechanical engineering, applied science, or equivalent.

## What you will be doing

- Work with our Research & Development team (hybrid, in Edmonton; team of 6).
- Apply creativity and a solid knowledge of thermal engineering to develop and test new solutions.
- Define and verify structural and thermal performance requirements based on thermal environment and constraints.
- Creation, maintenance and modification of CAD & FEM models.
- Design active or passive thermal management systems for space.
- Perform thermo-optic, thermo-elastic and thermal fatigue analyses.
- Perform test preparation activities including the design of ancillary equipment.
- Evaluate performance of thermal systems.
- Design and procure ground support equipment for thermal tests, jigs etc.
- Participate in design reviews.
- Support the design of the assembly, integration, and test plans for the telescope, and support procurement of equipment.
- Contribute to our IP strategy and support basic research activities (paper writing, attending conferences).
- And likely more! As part of a small startup team you'll find yourself working across the board to support Wyvern's activities.

## What to expect from Wyvern

- We have all the best aspects of startup culture including flexible working hours & support from across the team whenever you need it.
- We give ample vacation time and a stellar health benefits package.
- We're small but rapidly growing. The systems you craft will be foundational to Wyvern's success and you will get the unique opportunity to grow *with* the company.



- This is a full-time, permanent position based in Edmonton, Alberta, Canada. Hybrid may be an option for exceptional candidates, with the understanding that some on-site work in Edmonton is required.

To apply for this opening, send your resume & cover letter to **hiring@wyvern.space**.