

R&D engineer for combustion-driven high temperature systems at an energy startup (Somerville, MA)

Mesodyne is an exciting emerging startup company commercializing breakthrough technology initially developed at MIT. Mesodyne's LightCell is a new class of power generator that provides efficient, silent, reliable, long-endurance power from any fuel and enables an order of magnitude improvement in run time for a variety of vehicles, wearable and other equipment. Mesodyne is developing products for the industrial, scientific, and defense sectors. Based in Somerville MA, Mesodyne has multiple existing contracts and business, and more business opportunities are imminent. You will be joining a growing, dynamic, and motivated team.

The Position

Mesodyne's LightCell is a solid state generator: combustion heats a nanostructured emitter to incandescence and the resulting thermal radiation drives photovoltaic cells. The emitter is engineered to preferentially emit wavelengths of light that are efficiently converted by the PV cells. This enables efficient heat-to-electricity conversion in a lightweight, compact form factor. You will work closely with the engineering team and the founders to scale this novel technology from the lab to the commercial marketplace, supporting technology development through government and commercial customer pilot projects.

Your work will focus on high temperature subsystems on the "hot side" of the LightCell, from design through fabrication, integration, and testing. Specifically, you will work with fuel injectors, fuel/air mixers, flame stabilizers, heat exchangers, radiative cavities, etc. to optimization of heat transfer, temperature distribution, stability, pressure drop, etc. This position provides an exciting opportunity for you to be a part of a thriving and dynamic startup.

Qualifications and Skills

- PhD-level understanding of heat transfer, fluids, and/or combustion engineering. Prior industry experience is desired but not required.
- Strong hands-on experimental and prototyping skills are required. This includes design of experiments, setting up instrumentation, and data collection.
- Experience with commercial simulation software (COMSOL, Fluent, Star-CCM, etc.) is required.
- Experience with programming, preferably in Python, for data analysis and modeling is required.
- Interdisciplinary skills, interests, and expertise are highly desirable, including electronics, vacuum technology, optical systems, and other fields relevant to the LightCell.

Apply

- Email resume to careers-thermo@mesodyne.com