**Mission:**
To design, build, test and deploy autonomous seismic stations for extreme high latitude environments that minimize logistical overhead and maximize data quality and return.

- 5 full-time staff
- Lab Space and test equipment, including programmable freezers capable of reaching -70°C
- Prototyping and fabrication areas

**Power**

Batteries being the heaviest and most expensive aspect of an autonomous seismic station, a great deal of design and development effort has gone into minimizing our power requirements. We have worked closely with our vendors such as Xeos and Genasun to meet our design goals and we can currently operate year-round seismic stations on as little as a 1.5 Watt average power draw.

**Systems and Enclosures**

All of our seismic stations are optimized for portability, ease of assembly, cold weather performance and robustness. We have designs for a variety of conditions ranging from short term deployments in relatively mild conditions to indefinite duration installations in the coldest conditions on earth.

**Charging and Control**

A-Frame Solar
- 2x 50W Panels
- Mounting on snow, rock or earth
- Battery box used as ballast
- Can be fully assembled prior to flight
- Modular design, can be extended

Lampshade Solar
- 2x 205W Panels
- Mounting on snow, rock or earth
- Can be fully assembled prior to flight
- Modular design, can be extended

**Future Developments**

- **LiFePO4 Secondary Battery Systems**
  - Improved power density (~25x)
  - Very small (0.1 Ah)
  - Low cost up-rate

- **Air Cell Batteries**
  - Extremely durable, rugged and weather resistant
  - Can be used in cold climates

- **Wind Powered Heater**
  - Integrated air/fuel control system
  - Rugged and reliable
  - Durability tested in extreme environments

- **A-Frame Solar**
  - Portable, lightweight
  - Mounting on snow or earth

- **Tri-Panel Solar**
  - Portable, lightweight
  - Mounting on snow or earth

**Barrel Vault**
- Rated for 100°F
- Insulated for improved performance and reduced noise generating drafts
- Can be mounted on snow, rock or earth

**Insulated Dome**
- Rated for 100°F
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**LiFePO4 Secondary Battery Testing**
- Low parasitic drain (2.3 nA)
- Switching between primary and secondary cells
- Continuous temperature compensation
- Fully configurable for different battery chemistries
- Regulated output for clean sensor power

**Power**

- Improved tilt tolerance
- Environmentally sealed, direct bury
- Insulated for improved performance and reduced noise generating drafts
- Can be mounted on snow, rock or earth

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