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Research Theme

Aerospace and Transportation Materials and Manufacturing

Research Areas

- Multiscale modelling of materials
- Accelerated molecular dynamics
- Large scale *ab-initio* simulations.
- Spall failure of metals and alloys.
- Lightweight materials.
- Gradient nano-grained materials.
- Nanoscale materials.
- Mechanics of materials.
- Energy storage in batteries.

Research Facilities/Tools

- Access to Graham and Cedar nodes (Compute Canada): ~36,160 cores and 320 GPU devices, spread across 1,127 nodes of different types.
- Stress laboratory at UBC: Tensile tests and fatigue testing.
- In house software including sub-linear scaling DFT, accelerated MD and electron-phonons MD for laser & thermal transport.

