NOTE:

As of September 2025, the minimum funding is $26,000/year for MASc/MSc students and $30,000/year for PhD students. There are many scholarship opportunities available through the department and UBC.

HOW TO APPLY?

1. Explore graduate student openings below.
2. Before you apply, contact the faculty member whose research matches your interests.
3. Start your application online at mtrl.ubc.ca/graduate.

MTRL Openings for Master's and PhD Students (2026)

IMPORTANT: Projects listed were current at the time of publication. As funding is dynamic, further project opportunities may be available by contacting individual research faculty.

We strongly encourage you to connect with prospective supervisor(s) before submitting your application through eVision. Reaching out will help ensure your research interests align well with the opportunities listed below.

RESEARCH CLUSTER: ADVANCED METALLURGICAL MANUFACTURING & PROCESSING ENGINEERING

1. **Project Title: Next-Generation Multimodal Electron Microscopy for Energy and Engineering Materials**
   Supervisor(s): Ben Britton
   Project Type: PhD

   Project Description: This project is a unique chance for excited PhD candidates to push boundaries in multimodal electron microscopy and help shape the future of materials science - combining groundbreaking instrumentation with high-impact research. Join a research team at the cutting edge, working with the new TESCAN TENSOR STEM, featuring capabilities few labs in the world possess: 4D-STEM, scanning precession electron microscopy (SPED), energy dispersive X-ray mapping; as well as developing cross-over instrumentation with STEM-in-SEM using direct electron detectors. These tools will let you invent new methodologies and see materials in ways that were impossible until now. You'll develop and apply your discoveries to materials central to major technological and societal challenges, including: (1) Critical engineering alloys for infrastructure and high-performance applications. (2) Clean energy materials, such as new catalysts and energy storage solutions.

2. **Project Title: Machine Learning Interatomic Potentials (MLIPs)**
   Supervisor(s): Matthias Militzer
   Project Type: PhD preferred

   Project Description: I am seeking a graduate student (preferentially PhD) in the area of machine learning interatomic potentials (MLIPs) to enhance modelling of the interaction of alloying elements and solutes with migrating interfaces in metallic alloys which will require the use of supercomputers.

MTRL Openings for Master's and PhD Students (2026)

IMPORTANT: Projects listed were current at the time of publication. As funding is dynamic, further project opportunities may be available by contacting individual research faculty.

We strongly encourage you to connect with prospective supervisor(s) before submitting your application through eVision. Reaching out will help ensure your research interests align well with the opportunities listed below.

RESEARCH CLUSTER: ADVANCED METALLURGICAL MANUFACTURING & PROCESSING ENGINEERING (CONT'D)

3. Project Title: Advanced Characterization and Modeling of Real-World Manufacturing Processes
Supervisor(s): Jacqueline Noder
Project Type: Master's

Project Description: We are seeking a Master's student to support our research group in advanced material characterization and modeling of sustainable lightweight metals under multiaxial deformation modes relevant to real-world manufacturing processes. Preference will be given to candidates with a strong background in mechanical and metallurgical characterization as well as finite-element modeling.

4. Project Title: Experimental Comparison of Electron Beam and Laser Beam Powder Bed Manufacturing
Supervisor(s): Chad Sinclair
Project Type: Master's

Project Description: This project would be conducted in collaboration with an industry partner to try to better understand the differences/similarities arising from the same processing strategy and same material using these two processing procedures

5. Project Title: Time Acceleration of Molecular Modelling
Supervisor(s): Chad Sinclair
Project Type: Master's/ PhD

Project Description: This project would look at ways of reaching relevant timescales for slow processes via molecular/atomistic simulations. A particular interest would be problems involving nucleation in the solid state and interface migration in the presence of solute atoms.

6. Project Title: Extending FAST Thermal Modelling for AM
Supervisor(s): Chad Sinclair, Daan Maijer
Project Type: Master's/ PhD

Project Description: This work would build on our recently developed FAST thermal modelling platform for additive manufacturing. Dealing with boundary conditions and performing comparisons against experiments (including microstructure prediction) would be relevant.

MTRL Openings for Master's and PhD Students (2026)

IMPORTANT: Projects listed were current at the time of publication. As funding is dynamic, further project opportunities may be available by contacting individual research faculty.

We strongly encourage you to connect with prospective supervisor(s) before submitting your application through eVision. Reaching out will help ensure your research interests align well with the opportunities listed below.

RESEARCH CLUSTER: CORROSION, ELECTROCHEMISTRY, & HYDROMETALLURGY

1. **Project Title: Electrochemical Flow Cells for Carbon Capture and Hydrogen Storage**
   Supervisor(s): Kiana Amini
   Project Type: Master's/ PhD

   Project Description: We are seeking a motivated and curious PhD student to join our research in electrochemical engineering/electrochemistry, with a focus on the development of next-generation redox flow cells for carbon capture and hydrogen storage. The ideal candidate will have hands-on experience with experimental electrochemical techniques. A background in organic chemistry is particularly valuable and will be considered a strong asset.

RESEARCH CLUSTER: SUSTAINABILITY

1. **Project Title: Towards Absolute Sustainability Descriptors for Materials Design in Energy and Environmental Applications**
   Supervisor(s): Karthik Akkiraju
   Project Type: Master's

   Project Description: This project reimagines materials design through an absolute sustainability lens. Using computational tools, you will develop materials design descriptors informed by environmental impact and human well-being for heterogeneous catalysis applications. This work will be trans-disciplinary, integrating principles from materials engineering, industrial ecology, and computational social science. The research outcomes from this project will offer material substitution candidates, optimizing for both efficiency and impact.