

Grant Applications – NanoFab Standard Endorsement

The NanoFab of the University of Ottawa is a state-of-the-art nanofabrication and characterization facility, for research related to photonics, electronics, renewable and clean energy, environmental, information and communication technologies as well as life sciences, pharmaceuticals and medical equipment.

It is an open access user facility comprised of three labs: wet chemistry, metrology, and white and yellow clean rooms (Class 10,000). Students, researchers and external users are granted full access to the tools after appropriate training. Fee-for-service fabrication and characterization are also available to internal and external users. Typical projects include: the fabrication of integrated optical structures, silicon waveguides, plasmonic waveguides, metasurfaces, photonic crystal waveguides, photodetectors, modulators, lasers and biosensors.

The NanoFab offers the following:

- Lithographic capabilities: contact optical and electron-beam lithography
- Focussed ion beam milling: using Ga/He system which incorporates a gas-injection system for focused ion beam assisted deposition of metal and dielectric
- Microscopy capabilities: optical microscopy (2 systems), stylus profilometry, scanning electron beam microscopy (2 systems), atomic force microscopy (2 systems), and focused ion beam microscopy (He)
- Material etching (Si and III-V): a reactive ion etching system, an inductively-coupled deep reactive ion etching system and an O₂ plasma system
- Material deposition: through spin-coating and curing, sputtering, or evaporation (thermal or e-beam)
- Optical parameter characterization: scanning spectroscopic ellipsometer and prism-coupled system
- Back-end processing: dicing saw, end polishing system and solder reflow system