

The Expanding World of Nanofabrication – *an update from NanoFabrication Kingston*

September 4, 2026

Good day,

You are receiving this important update as a user of NFK, as a supervisor of a user, or as someone who requested to receive these updates.

Evaporator

The high vacuum system on the evaporator is not living its best life at the moment. The cryopump keeps losing cryo after running for 1-2 weeks. The helium compressor was decontaminated and recharged late last week, so hopefully it will be stable again for a while. If it is something more sinister, the struggle could continue. If you need to use the evaporator, try to request it well in advance and please be patient if it goes down unexpectedly.

The quartz crystal microbalance that monitors deposition rate on the evaporator has some news to report.

It wants you know that it doesn't want to measure titanium anymore unless you change to channel 2. If you are depositing Ti, once you program the thickness, the screen will flash zeroes. Just move the BNC connector from channel 1 to channel 2 and it will be fine. Once finished with Ti, please change it back to channel 1.

In other news, the QCM wants you to know that there is a different crystal now if you are depositing SiO₂. Make sure the correct crystal is installed (metal or SiO₂) before lowering the hoist. The one that is currently installed is written on the crystal container that is on top of the stack. If you tell me what material you are evaporating when you book the equipment, I can help with crystal changes. The new crystal should help with deposition rate stability when evaporating SiO₂.

Gas supply

As some of you may know, especially those at Queen's, our usual supplier of bottled gases is struggling to deliver at the moment. Please be patient if we need to go easy on the nitrogen periodically, or run out altogether (eek!). We are working with other suppliers to fill the gaps, but facilities like ours that go through a lot of gas are really feeling it.

RIE

The reactive ion etcher is currently down. The etcher itself is fine, but the chiller that supports it is getting its pump replaced. I expect to get the parts and have it going again next week. Sorry for the inconvenience!

Raith Micrograph Award

Raith Nanofabrication has announced its annual [Micrograph Award](#) competition is now open. Two of our users (Kristina Bodioga and Nathan Eddy) won Honourable Mention in last year's competition, so don't be afraid to enter! If you are considering submitting something, let me know.

See you at the lab!

Graham Gibson

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