

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

September, 2019

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.

Lab coverage

Now that I am the only person staffing NFK, we can no longer guarantee that there will be someone supervising users in the lab during regular working hours (8:30-4:30, Monday-Friday). We are working on a plan to handle this situation, including a review of which activities users will be permitted to do without supervision. For the time being, however, please **email me** whenever you plan to do work at NFK that you need help with!

NFK Lab Safety Committee

Now that NFK is managed under the Chemistry Department, the independent NFK Lab Safety Committee is now dissolved and instead we will have a Safety Representative that reports to the Department. Introducing NFK's new Safety Representative: me! Please don't hesitate to contact me if you have any questions or concerns about safety at NFK.

New deposition materials

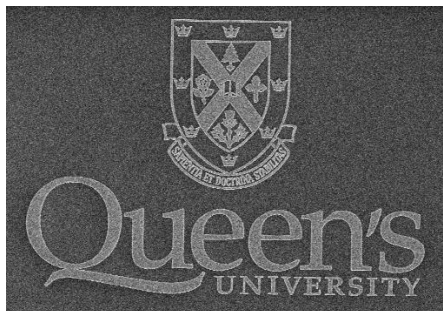
NFK staff has recently developed processes for the thin film deposition of:

- **Platinum** (Pt) by e-beam evaporation
- **Palladium** (Pd) by e-beam evaporation
- **Vanadium** (V) by e-beam evaporation and sputter

If you are interested in depositing these materials, or need a different material, please let me know.

New e-beam lithography process

Thanks to the efforts of SWEP student Sarah Choudhury, NFK now offers a two-layer liftoff process using e-beam lithography for patterned deposition of thin films on substrates like silicon chips. We demonstrated that the process can pattern chromium lines on silicon down to 25 nm wide, and some fun patterns we tried (e.g. the Queen's logo, shown below by SEM at 67 μm wide) are posted on the Physics Dept. [website](#) and the Queen's Engineering Facebook [site](#).



We want to hear from you

NFK is always interested in hearing about your research. Has your work at NFK led to a publication or conference presentation? If so, please let us know. We are constantly updating our [list](#) of peer-reviewed journal articles showing work done at NFK. We also welcome feedback about our tools and services. Feel free to forward your questions, concerns, complaints, or praise to [me](#), and I will do my best to respond.

See you at the lab!

Graham Gibson

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