

Present status & first steps on BNL side

- LDRD proposal has (seemingly) been approved
 - Though no official confirmation, no account yet, and I was asked to do minor English edits yesterday
- Feedback from our business department: will need either a PO or a contract to be able to pay invoices
 - Bidding process (?), sole source vendor (?), import tax (?)
- First steps on BNL side
 - Submitted a separate proposal to BNL Center for Functional Nanomaterials last week
 - May-August cycle; scope beyond a basic SEM/FIB/EDS study to be defined (e.g. aging?)
 - Procure MCPs from Incom once account is established
 - Build a functional test stand
 - Vacuum chamber with a pair of MCPs, a diamond plate support, single anode (?), HV & signal feedthroughs
 - Vacuum pump, UV laser, motion control (?), high enough GS/s and ABW scope, optional fast readout (DRS4), etc
 - Low QE transmission photocathode(s)
 - Questions: required vacuum level ($\sim 10^{-6}$ or UHV?), diamond plate geometry & handling procedure

Other basic questions

- Will we be able to efficiently move the functionalized diamond membrane(s) around at all?
- Do we need a complementary test stand in the UK?

- Are we talking about one, two, several samples?
- Doping options? Sc-O termination only?
- A typical sample size? 3x3 mm²? A variety of different spots per plate (motion control needed)?
 - A typical functionalized spot size?

- Timelines as suggested in the proposal make sense?
 - First four months: bureaucracy, BNL-UK contract, payment procedure, test stand preparation, procurement
 - Have first (?) membranes ready for a SEE yield measurement by summer
 - Will seemingly require a startup funding in the UK
 - Last four months: evaluation at BNL (and at Leicester?)
 - Test stand(s) and surface analysis @ CFN (complementarity with NanoESCA measurements?)
 - Any feedback loop foreseen or there is no budget (and time) for it?