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Recent Progress in Low-Temperature Research from the Davis Lab at the University of Alberta[1] JOHN P. DAVIS, XAVIER ROJAS, YIKAI YANG, ANDREJ DUH, GREG POPOWICH, University of Alberta, Department of Physics — In this talk I will briefly describe our recent progress towards new low-temperature experiments at the University of Alberta in the Davis Lab. We are currently setting up two nuclear demagnetization fridges - one new cryostat that has two independent 9 T magnets (the second magnet being useful for a double demag stage or combined high field and low temperature experiments). The other fridge is an older unit that is extensively refurbished, with all new pumping systems. We are planning numerous experiments at the intersection of low-temperature physics and nanoscience, including quantum properties of nanomechancial resonators and quantum fluids in confined geometries. Concerning the latter, we have fabricated high quality microfluidic devices suitable for low-temperature research. We will discuss our progress towards quantum fluids measurements using these devices.

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