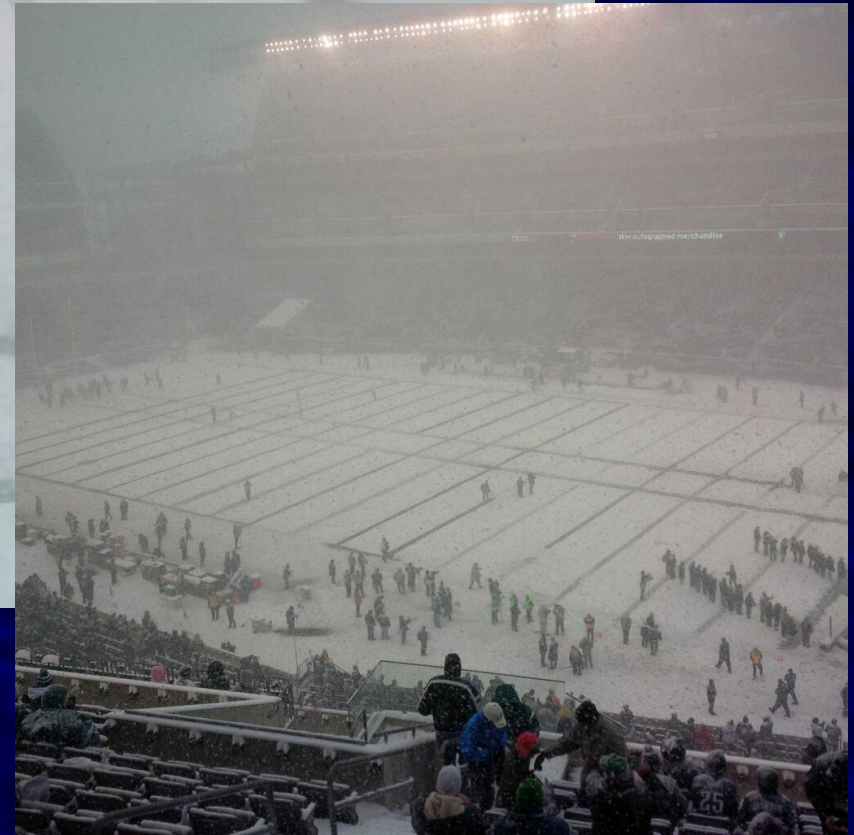


Preparation for White Christmas



The Purdue Group

A bunch of excited undergrads, three motivated graduate students, two fantastic postdocs and a ... well... and me.



PURDUE

UNIVERSITY



Gas System & Cryostat

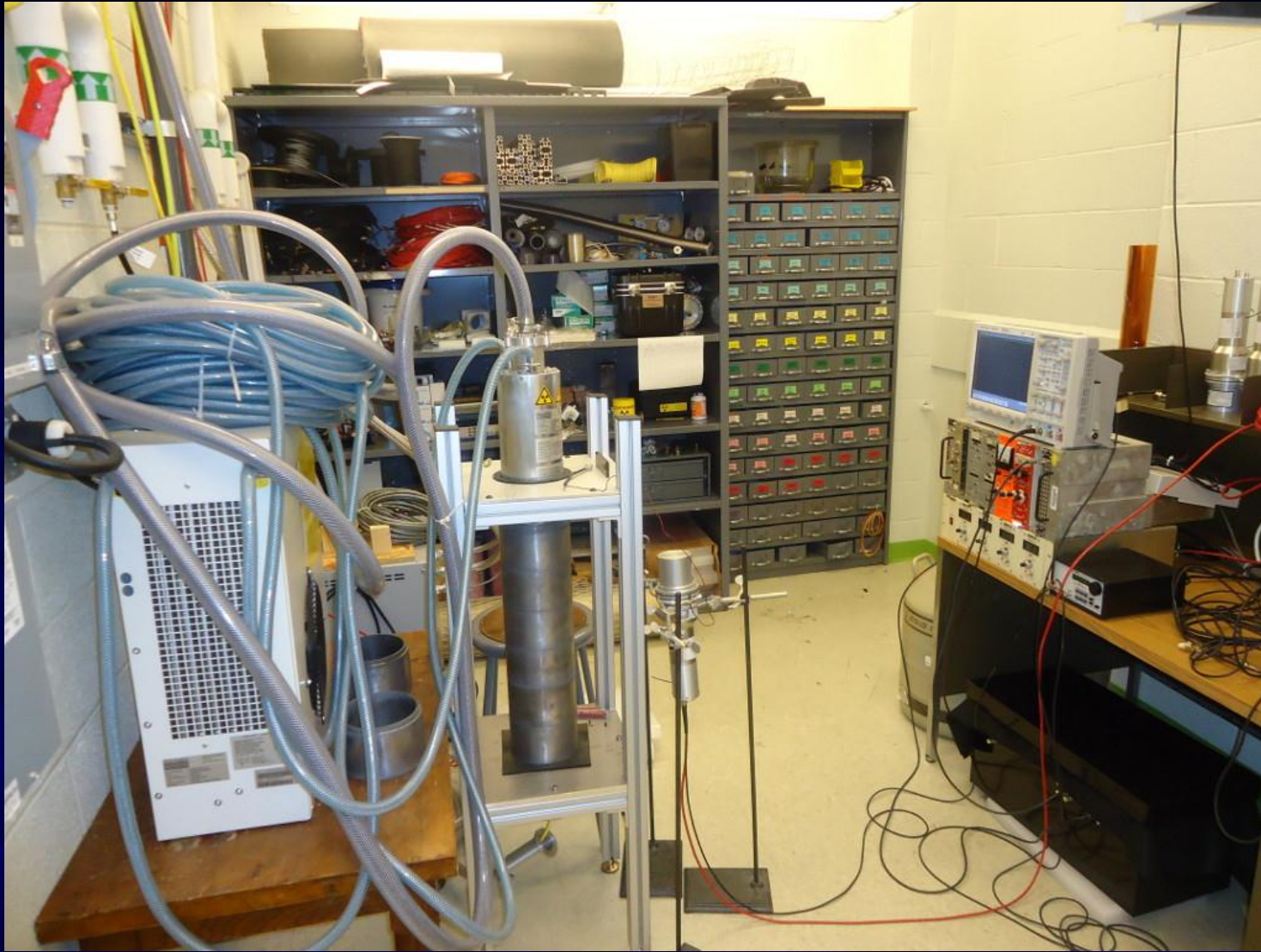


Gas System & Cryostat

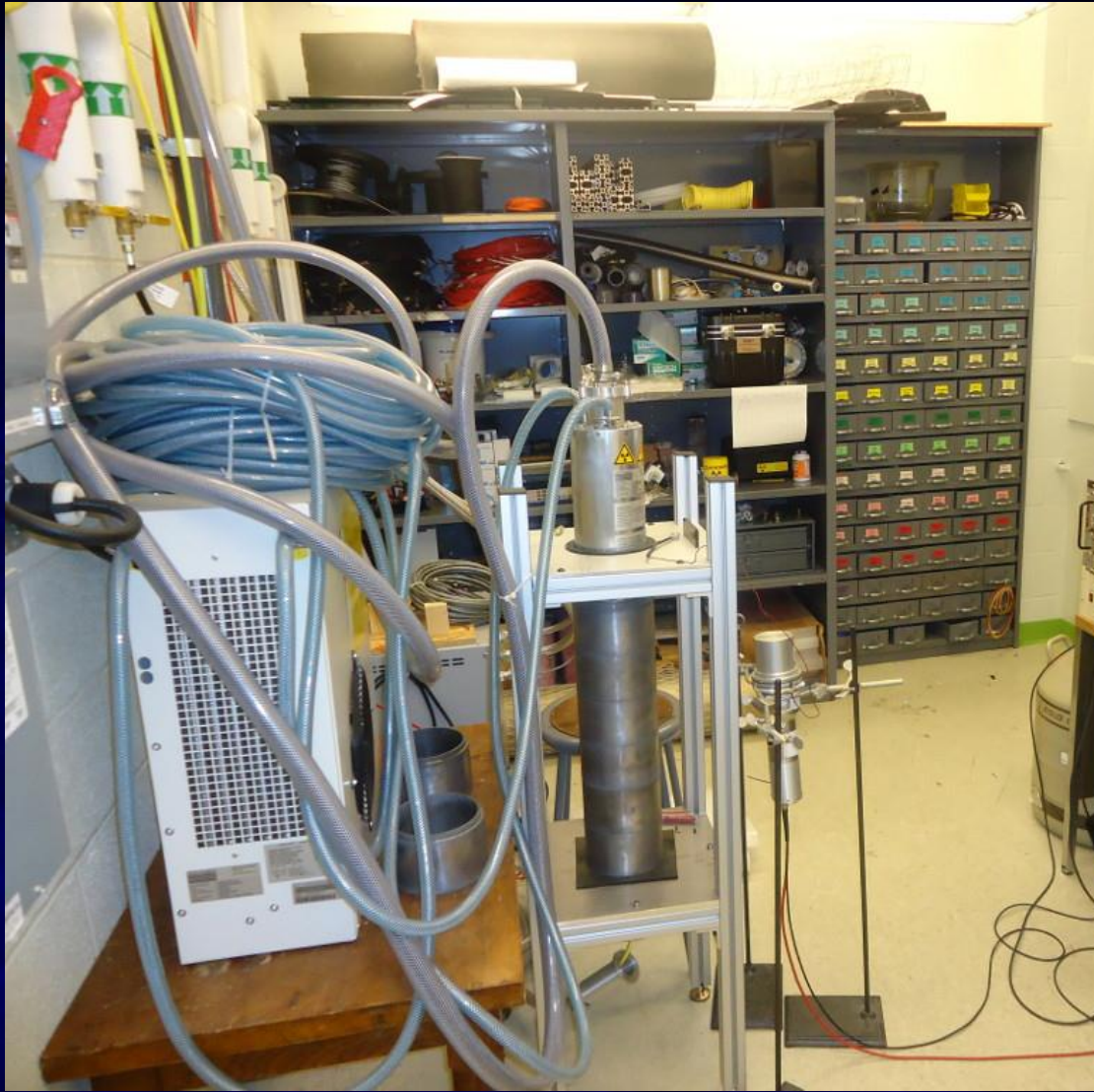


- Introduce radioactive isotopes into target gas
- monitor them (TPC, single-phase gas detectors, ...)
- find suitable calibration sources for ER backgrounds:
 - ^{83}mKr as line source for spatial detector response
 - Beta sources for ER band

Annex: Neutron Generator



Annex: Neutron Generator

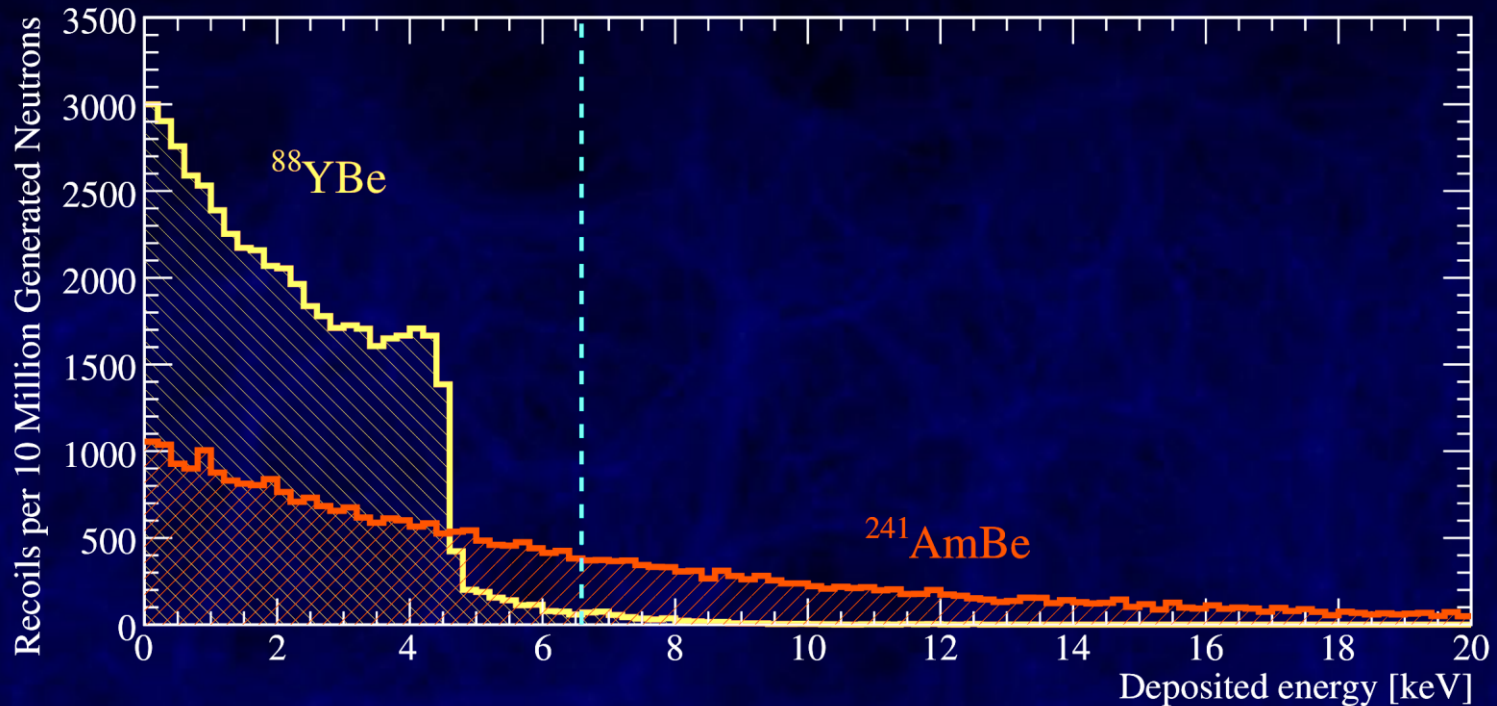


NSD-35-DD-C-W-S
custom-built
for low flux
($\sim 1\text{n/s} - \sim 10^5\text{n/s}$)
and water tightness

Calibrate for
flux and energy

And...

- ^{88}YBe ultra-low-energy nuclear recoil calibration



- Monte Carlo simulations
- Analysis of XENON100 data

