Challenge: detect inverse beta decays (IBDs) in limited space at the Earth’s surface, ~7m from a reactor
- energy containment ($n + {^6}\text{Li} \rightarrow \alpha + t + 0.55 \text{ MeV}_{\text{ee}}$)
- pulse-shape discrimination for particle ID
- event topology and course tracking information
- fiducialization with an active veto

Physics goals require excellent light collection (resolution), < 5% dead material, and in-situ calibration options.

Assembly of detector package at the Yale Wright Laboratory
- PMT module, optical separator, and pinwheel production time ~1 year, detector package assembly ~3 months
- Each piece assembled by PROSPECT collaborators, significant material cleaning and building QA/QC

Installation at the High Flux Isotope Reactor, USA
- Detector shipped and filled with scintillator at HFIR on-site
- Built shielding package: lead, borated poly, water bricks
- Installed source calibration system with gamma sources
- Commissioned in March, online since beginning of May

Secondary containment gas/light tight via blackened silicone
- Installed environment sensors (temp, humidity, pressure)
- Data taken without scintillator to validate optical calibration, HV control, and DAQ system

Acknowledgements
This material is based upon work supported by the U.S. Department of Energy Office of Science and the Heising-Simons Foundation. Additional support is provided by Illinois Institute of Technology, LLNL, NIST, ORNL, Temple University, and Yale University. We gratefully acknowledge the support and hospitality of the High Flux Isotope Reactor, managed by UT-Battelle for the U.S. Department of Energy.