

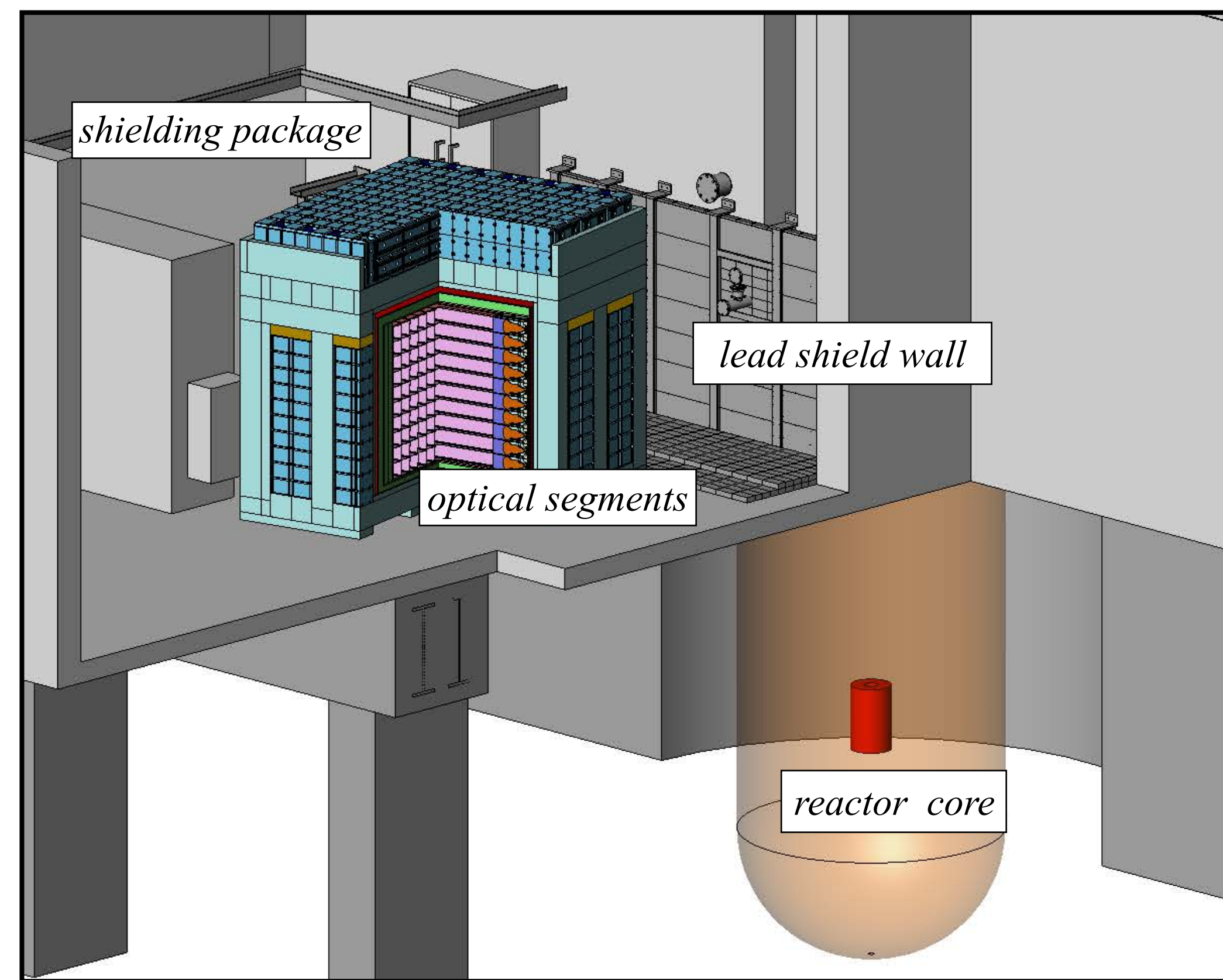
# PROSPECT PMT Module Assembly at the Yale Wright Laboratory



Danielle Norcini† for the PROSPECT Collaboration ([prospect.yale.edu](http://prospect.yale.edu))  
 Department of Physics, Wright Laboratory at Yale University, New Haven, CT 06511

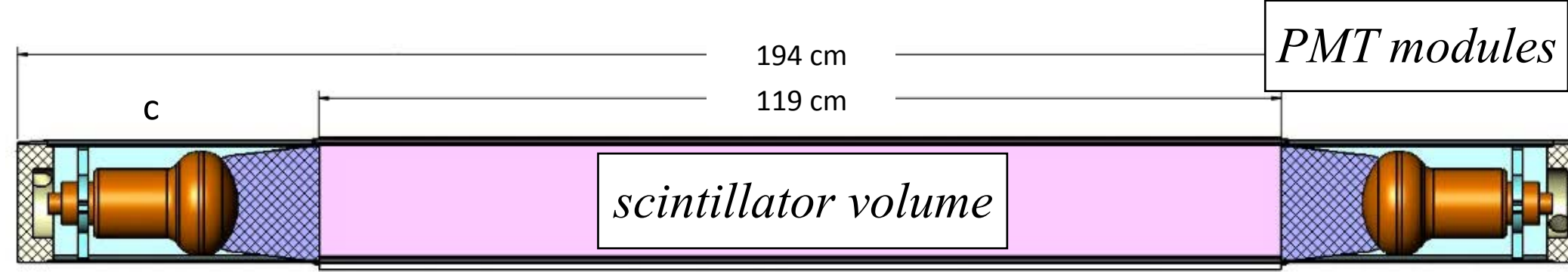


## PROSPECT antineutrino detector

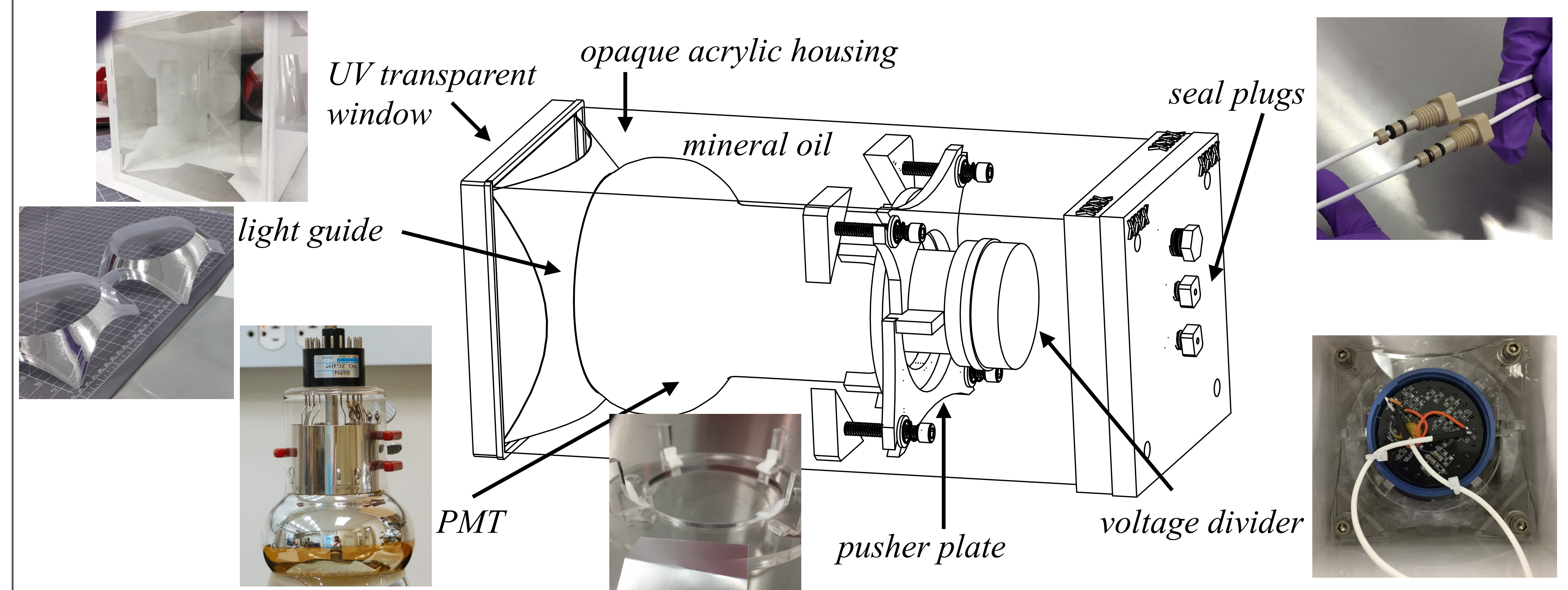


Reactor core generates electron antineutrinos from beta decays of  $^{235}\text{U}$  fission daughters. The neutrinos interact with protons in liquid scintillator generating light that is read by photomultiplier tubes (PMTs).

- 4 tons  $^6\text{Li}$ -loaded liquid scintillator
- 11x14 optical segment array
- segment size:  $119 \times 15 \times 15 \text{ cm}^3$
- double-ended PMT readout
- access tubes for source calibration
- installed inside shielding package



## PMT module design



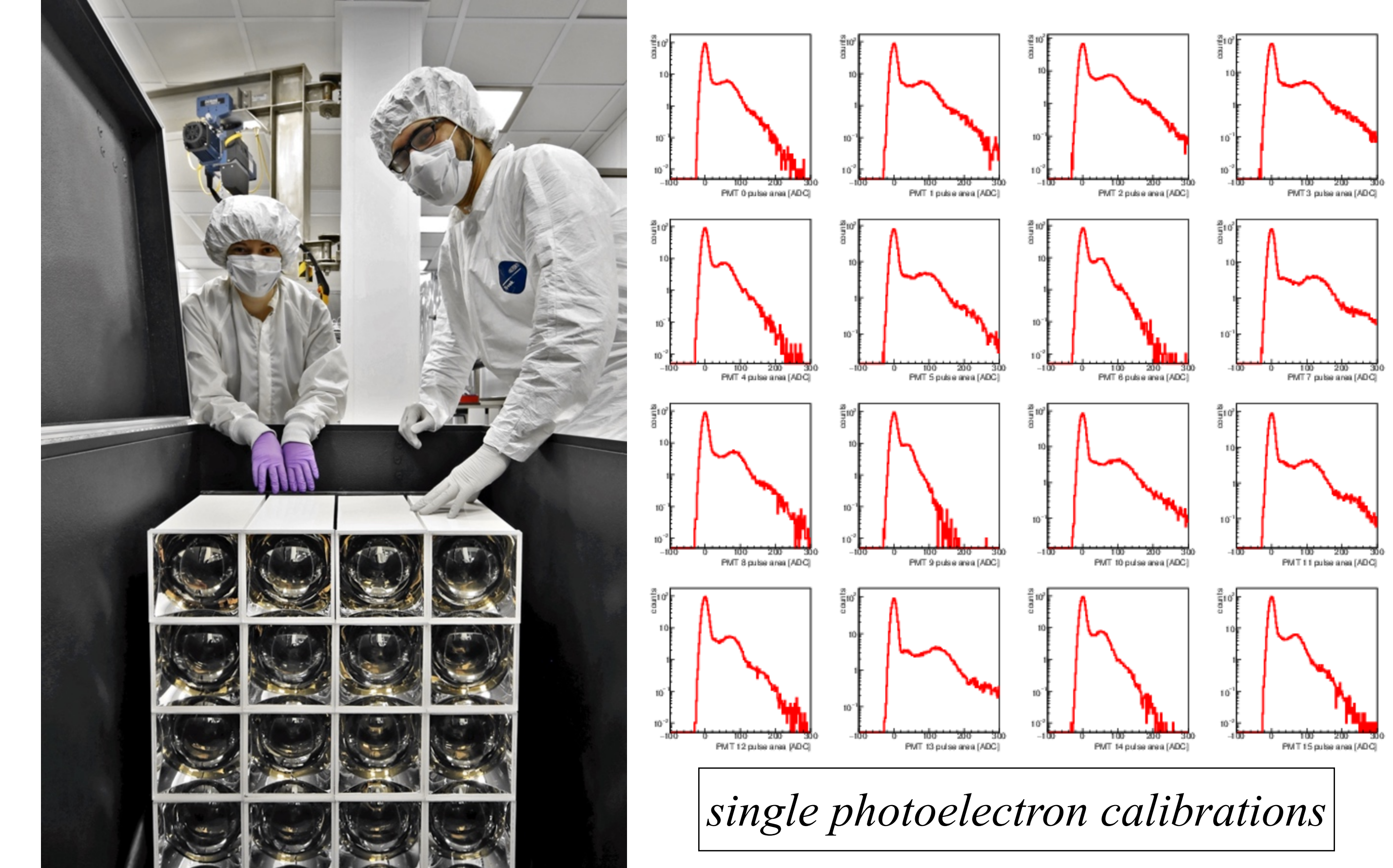
## Pre-assembly production



## Module assembly



## PMT characterization



## Collaboration



†[danielle.norcini@yale.edu](mailto:danielle.norcini@yale.edu)