

# Discussion for the CPAD report

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# Our charge

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- We have asked the conveners of all the working groups to come up with multiple, innovative, ideas with at least:
  - One 'evolutionary' research program
  - One 'revolutionary' research program
- Each submitted research program is expected to have:
  - A clearly stated objective
  - Set of deliverables and milestones
  - Anticipated project duration
  - List of collaborators

# Initial thoughts

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## Dark Matter

- Scalability
  - Photon Detectors
  - Calibration
  - HV
  - Recirculation/Purity
  - Sourcing
- Lower thresholds
  - Bubble Chambers
  - He ?

## $0\nu\beta\beta$

- Bkg reduction ( $B < 0.1$ )
  - Radiopure materials
  - Topology
  - Barium Tagging
  - Ion TPCs
- Energy Resolution
  - Photon detectors
- Scalability
  - HV
  - Photon Detectors \$
  - Towards NH?

## Neutrinos (Osc)

- Scalability
  - Pixel readout
  - Dual-Phase
  - HV
  - Purity
  - Environmental location
- Lower energy
  - Photon detectors
  - Dopping

## nEDM

- HV
- Scintillation