

# Discussion for DUNE BSM

*DUNE BSM Working Group*  
*Oct. 13, 2015*

*Jae Yu*  
*Univ. of Texas at Arlington*



# Scope of the group

- No longer just focused on ND physics
  - Includes FD as well
- Covers all beyond the Standard Model Phenomena
  - Excluding the non-SM topics related to oscillations at the atmospheric  $\Delta m^2$  scale
  - Covered topics
    - Sub-GeV DM search
    - Sterile neutrino search
    - Heavy neutrino search
    - Non-Standard Model Neutrino Interactions
    - Others?

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# Timeline

- Studies needed to understand potential enhancement of the detector
- Must be part of CD-2 in FY19
- Complete the initial list of topics and assignments by Jan. 1, 2016
  - Send your favorite topics to Jae (yu@fnal.gov)
- What simulation tools are needed?
  - What do we have for what topics?
  - To what level of simulation?
  - Identification of existing tools
- What time scale?

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# Milestones

- Jan. 1, 2016: Complete the initial list of topics and people to work on
  - Identify existing MC tools and the needs for missing tools
- July 1, 2016: Complete initial studies on sensitivities on various topics
  - Assess necessary detector enhancement
- July 1, 2017: Complete more systematic sensitivity studies on
- Jan 1, 2018: Take part in CD2 writing

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