

Part II: Where do we go from here?

- First, what are the (common) issues?
- Then, what additional structures are helpful to address them?
- What can NuSTEC uniquely do or enable?

**See also: talks
after this one!**

What the community is worried about

From Nu-Print workshop: <https://indico.fnal.gov/event/15849/timetable/#20180312>

- What are the uncertainties needed for the 2p2h?
 - Large uncertainties on leptonic side (across q_0 - q_3 ?). Differences between ν and $\bar{\nu}$ in overall strength.
 - What should be the hadronic final state association? And how much energy into (which) outgoing particles?
- Insufficiency of current resonance model to describe pion kinematics, low Q^2 discrepancies.
 - Is 2p2h-like processes in resonance production?
 - Need NC for significant backgrounds (or exotic signals)
- Transition region! Incomplete experimental and theoretical footing
- Need heavier targets (Ar!) model efforts
- ν_e/ν_μ uncertainties
- *Kendall adds: NC diffractive processes not explicitly assessed*

Useful structural elements

- Encourage documentation and transparency
 - What have we tried? What worked, what did not?
- Reduce barriers to collaboration
 - Need for a clear (generator/experiment) interface for flexible, shared model development, and uncertainty propagation.
 - Dedicated theory+experimental partnerships. What additional funding support should be encouraged?
 - What inter-experimental collaboration is useful?
 - Advertising: Are we participating in European Strategy document or other exercises?

Establishing a prioritization

- Do we agree on what is needed? Do we have to?
 - Different experiments may have (and indeed have) different needs. Do we at least see where work can be usefully shared?
 - Do the theory groups have “enough” to write strong proposals to meet those needs?