IDT WG3 - Current Activities

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ILC Information Meeting
Zoom, November 2020

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FÜR PHYSIK

Outline

Initial WG3 Activities

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- WG3 is meeting every two weeks via Zoom to discuss various WG related topics
- Composition still evolving, with additional members being added to broaden scope and representation. Starting point was the LCCPDeb, now with additions from IHEP/CEPC, UK/CLICdp
- Three subpanels have been formed to provide input to IDT, with specific tasks:
  1. For establishing the ILC physics programme, how do you think to carry out stages of Expression of Interest, Letter of Intent, Technical Proposal and finally Technical Design Report for starting the actual construction, which is a procedure something closely analogous to that for the LHC?
  2. What are the time lines and necessary studies that need to be done for general purpose Higgs experiments at ILC following this process and how much resources (money and people) would be needed?
  3. How do we encourage new ideas for EoI which may eventually be incorporated in the final detector proposals?
- In addition: Extensive discussions leading up to AWLC, and updates on the Snowmass process

The Reviewing Time Line

Evolving Results of "Subpanel 1"

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- Already fed into the "Time Line" discussion at AWLC
- Conceptual outline of process towards detector approval / construction:
  - Expression of Interest: Fully open, can be full detector concepts or individual system ideas
  - Letters of Intent: Form out of EOIs by a largely community-driven process, with ILCC review / input
    - Review by ILCC, (down-)selection by PreLab Management, invitation for TDRs, starting with Technical Proposal / Framework TDR
  - Technical Proposal / Framework TDR, followed by subsystem TDRs

Funding for detector concept work, technology R&D in R&D collaborations required - late in the first year of the pre-Lab?

- Rough time estimates:
  - EOIs incl. forming of concepts ~ 1 year
  - LOIs incl. review, selection / decision by Lab Management ~ 2.5 years
  - TP / Framework TDR incl review and decision ~ 2 years

Starting point, and exact timing of individual steps wrt pre-Lab / ILC Lab formation to be decided

Engaging the Community

Subpanel 3, also Subpanel 1 and all of WG3

- General premise: Involve the broadest possible community, with an open process inviting new ideas and new participants. Activities on two levels:
  - Reach out to individual communities: Existing ILC detector concepts, CLIC, FCC / CERN, CEPC, R&D collaborations (ILC motivated and beyond), fixed target / Physics Beyond Colliders, …
  - Concrete community engagement events:
    - Spring 2021 Workshop with dedicated sessions for:
      - technological developments to foster connections and new ideas for collider experiments
      - fixed target / PBC community, to establish a collection of ideas and possibilities, define requirements
    - Dedicated experiment workshop in Fall 2021

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- Take-away message from Early Career Discussion at AWLC:
  - Availability of funding is a central prerequisite for engagement of early career scientists, as are career perspectives.

Broadening the Scientific Scope of the ILC Facility

… and of the participating community

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Two classes of experiments at ILC:

Collider detectors: Already pre-existing concepts, should profit from new technologies, new ideas, and potentially fully new detector concepts

Non-collider experiments: A new addition to the "ILC portfolio" - with many aspects not yet understood or defined

- Boundary conditions from facility: Parameters, possible locations, required infrastructure - requires connections to machine and infrastructure groups
- Uniqueness compared to other facilities, science capabilities, community interest

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- In an European context:
  - Should achieve broad participation in discussions on both aspects of ILC science
  - Find ways of connecting to / involving countries / major institutes currently not connected to the ILC efforts

⇒ Working on ideas on how to achieve this -
further suggestions welcome!