First discussions regarding new EU AIDA project

EUROnu WP5 Meeting
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Definition of AIDA

- **DevDet:** this was a failed FP7 Integrating Activity proposal for "Detector Development Infrastructures for Particle Physics Experiments"
  - It included detector R&D for Super-LHC, Linear Collider, future accelerator-driven neutrino facilities and B-factories
  - The aim was to develop test beam facilities for neutrino detector R&D.
  - This proposal was not funded in first round

- **AIDA: Advanced Infrastructure for Detectors at Accelerators**
  - New EU approach of targetted calls is recommending that DevDet be resubmitted to the EU in their Integrating Activity call of August 2009 (submission date 3 December 2009) – renamed as AIDA
  - I am part of the small group of people putting together the proposal
  - We need to make sure that the neutrino community is well represented in this new call to be able to fund neutrino detector R&D in Europe.

AIDA aims

- AIMS AIDA: needs to fund common R&D projects for Super-LHC, Linear Collider, neutrino facilities and B-factories

  - From the point of view of neutrino R&D, the proposal aims to fund a low energy particle test beam at CERN and its associated instrumentation (ie MICE-EMR detector in a magnet or a prototype MIND that can be used as spectrometer).

  - The management team at the moment consists of: Laurent Serin (probable coordinator), Lucie Linssen, Steiner Stapnes, Mar Capeans Garrido, Tiels Behnke, Francesco Forti, Hans Taureg, Jordan Nash, Svetlomir Stavrev

  - There are also National Representatives to coordinate individual country contributions

  - Expect ~50 institutes represented from about 10-20 countries

  - EU budget 10 MEuro max but project likely to be ~35 MEuro

AIDA structure

WP 1 (MGT) : Project management and documentation CERN EU office + PLs

WP2 (COORD) : Development of common software tools

    2.1 Detector geometry, calibration & alignment
    2.2 Reconstruction and analysis software algorithm
    2.3 Parallelization of software framework to exploit multi-core
        processors ????

WP3 (COORD) Detector Integrated Electronics
    3.1 3D interconnection of microelectronics and semiconductor
    3.2 CMOS detectors
    3.3 Common aspect of cooling/power ???

WP4 (SUPP) Transnational Access to DESY test beam

WP5 (SUPP) Transnational Access to CERN test beam and irradiation
       facilities

AIDA structure

WP6 (SUPP) : Transnational Access to European Irradiation
facilities

WP 7 (RTD) Improvement and equipment of beam & Irradiation lines

7.1 : Low energy beam (CERN) **(Frascati beam ?) – neutrino detector R&D beam!!!**

7.2: Upgrade of proton & neutron irradiation facilities at CERN

7.3 : General beam line equipment :

Can contain magnets, gas supplies, beam Cerenkov, cooling and cryogenics plant, thermal characterization

7.4 Stand-alone detector equipment for beam tests

Can contain some DAQ, DCS aspect (all communities)
as well as more advanced electronics modules for trigger/time measurement (Super B)

AIDA structure

WP8 : Medium advanced Infrastructure for detector R&D

8.1 Gaseous tracking facility
  include LC-TPC setup , RD51 activity for SLHC, neutrinos….
8.2 Precision pixel infrastructure:
  Can contain large part of devdet-WP10 with structure to accept
  modules of different technologies, contribution to another pixel
  telescope and/or alignment aspect.
  (part of the pixel technology will go also in WP3)
  Will contain both LC,SLHC and super B community
8.3 Granular calorimeter studies infrastructure
  Here contain only LC activity. Can argue here about need
  of large scale calorimeter with large scale Si strip tracking
8.4 Qualification of material for detectors
  Can contain both infrastructure for the test at irradiation facilities,
  definition of agreed test procedure and the delivery of a common
  database

AIDA structure

WP 9 (RTD) : Integration of sub detectors for a combined Test

    9.1 Coordination of combined tests
        Can include beam test organization/schedule but also part
         of analysis
    9.2 Common DAQ and detector control systems
    9.3 Integration of individual tracking detectors
    9.4 Integration of large scale calorimeters

For 9.3 and 9. 4, should be careful to have really global infrastructure and not be redundant with package WP8. Need to have part of devdet-10 both in WP8 and WP8 so that their budget are correctly balanced.

WP10 (COORD) Technology roadmap for particle physics detectors

    (Sensors, electronics, power, SiPM, micropattern gas detector)
    Deliverable here is only a document. Budget is mainly travel/meeting